Medical Times

A Monthly Journal of Medicine, Surgery and the Collateral Sciences

Published by THE MEDICAL TIMES COMPANY at 95 Nassau Street

Vol. LIII, No. 4 | NEW YORK, APRIL, 1925 | Twenty-Five Cents a Copy Two Dollars a Year

CONTENTS

Established 1872 *Entered at the New York Post Office as Second Class Matter*

PLATE No. 1

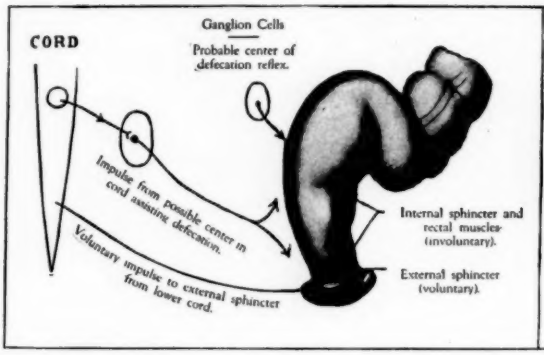


PLATE No. 2

Plate No. 1—Proctogenous Constipation. When constipation results from failure of the defecation reflex, disturbance of entire intestinal tract by catharsis is pernicious.

Plate No. 2—Ileo-cecal Intussusception. Should this condition be incorrectly diagnosed and a cathartic given, the results, particularly in children, may prove fatal.

Lubrication vs. Catharsis

A noted gastro-enterologist in advising against the use of cathartics states:

(1) They cannot correct constipation. Like opium, the frequency and the amount of the cathartic must be increased to produce results.

(2) The long continued use of cathartics gives rise to hemorrhoids, gastric and intestinal catarrh, appendicitis and intestinal toxemia.

(3) Experiments show that cathartics produce highly acid stools with a consequent derangement of bowel function and body metabolism.

(4) By producing soft or liquid feces, cathartics extend the absorbable area of the stool and therefore increase toxic absorption.

(5) They frequently bring about dehydration and disturbance of the acid base balance in the system.

Leading authorities have found that a lubricant overcomes constipation and offers none of the disadvantages imposed by cathartics.

Nujol, the ideal lubricant, is the *therapeutic common denominator* of all types of constipation. Microscopic examination shows that too high a viscosity fails to permeate hardened scybala; too low a viscosity tends to produce seepage. Exhaustive clinical tests show the viscosity of Nujol is physiologically correct and in accord with opinion of leading medical authorities.

Nujol

REG. U.S. PAT. OFF.

For Lubrication Therapy

Made by NUJOL LABORATORIES, STANDARD OIL CO. (New Jersey)

Medical Times

A Monthly Journal of Medicine, Surgery, and the Collateral Sciences

Vol. LIII, No. 4 | New York, April, 1925 | Twenty-Five Cents a Copy Two Dollars a Year

Surgical Conditions of the Liver

D. PHILIP MACGUIRE, M.D.

VISITING SURGEON, ST. VINCENT'S HOSPITAL, S. I.; ASSOCIATE IN SURGERY, NEW YORK POST-GRADUATE HOSPITAL AND MEDICAL SCHOOL.

New York

The liver has three surfaces, superior, inferior and posterior and anterior border, right and left extremities.

The convex upper smooth surface of the liver is subdivided by a sagittal fold of peritineum drawn down from the diaphragm, called the suspensory broad or falciform ligament. To its right is the larger broad convex lobe and on the left the smaller more slender flattened lobe. This broad ligament corresponds on the under surface of the liver to the left longitudinal fissure running from before backward. This fissure divides the under surface into a right and left lobe. The left lobe is variable and usually constitutes one-sixth the gland. So great is the importance of the suspensory ligament of the liver that I will describe it below.

Three more lobes are seen on the inferior and posterior surfaces of the right lobe, from before backward, the quadrate, caudate and spigelian lobe. The superior or phrenic surface is convex, directed upward and forward and covered by peritineum except for the linear space between the layers of the broad ligament. The under surface of the right lobe has a middle piece cut from it by the fossa for the gall bladder, the fossa vesicalis. The free surface of the spigelian lobe looks backward, is nearly vertical and is concave from side to side. This lobe is the only part of the liver covered by the peritineum of the lesser sac. The finger goes under the caudate lobe through the foramen of Winslow and passes up behind the Spigelian lobe.

Just anterior to the vena cava is a narrow area of liver tissue connecting the right lower corner of the Spigelian lobe to the under surface of the right lobe. It is the tuberculum caudatum, not always big enough to be called caudate lobe. This lies above the foramen of Winslow. The posterior surface is rounded and broad behind the right lobe, but narrow on the left. To the right is not covered by peritineum for a space about three inches broad and two inches high. This is in direct contact with the diaphragm and posterior abdominal wall and is marked off from the upper surface by the lines of reflection of the peritineum from the diaphragm to the liver. This part constitutes the anterior layer of the coronary and right lateral ligaments. It is marked off from the under surface of the liver by a similar line of reflected peritineum from the posterior part of the diaphragm to the liver, which here forms the inferior or posterior layer of the coronary and right lateral ligament.

This anatomical description may seem superfluous, but the exact anatomical knowledge above described is very necessary in dealing with certain surgical conditions. So that in dealing with surgical conditions of the superior surface we have the upper surface of the left lobe, the umbilical incisure, the attachment of the falciform ligament, cardiac impressions on both lobes, vesical incisure, and upper surface of the right lobe. In the posterior surface we have the thin margin of the left lobe, the esophageal incisure, the ligamentum venosum and fissure for ductus venosus, the Spigelian lobe in front of the tenth and eleventh dorsal vertebrae, papillary tubercle, fossa for the vena cava and hepatic veins, non-peritineal impression for part of the right suprarenal capsule and non-peritineal surface of right lobe for the diaphragm.

On the inferior surface we have the gastric impression, on the under surface of the left lobe, the tuber omentale which includes the lower part of the Spigelian lobe, umbilical fissure, and ligamentum teres, quadrate lobe with impressio pylorica, and duodenalis (first portion), fossa for gall bladder, remainder of under surface of right lobe, impressio, duodenalis (second portion), peri-

tineal impression for suprarenal capsule, impressio renalis posteriorly and colica anteriorly.

The two important ligaments of the liver are, first, the falciform, and second the gastro-hepatic. The falciform or broad ligament or suspensory ligament is part of the old anterior mesentery of the stomach and duodenum. The liver was developed in it, budding out from it in the duodenum, where its ducts are still attached. This is a thin membrane which passes anteriorly, posteriorly above the liver and below it. It contains between its two layers the intra-abdominal part of the umbilical vein of the fetus now a fibrous cord, the round ligament, (ligamentum hepatoumbilicalis) which is lodged in the umbilical fissure. Also between the two layers run some branches of the epigastric veins anastomosing with the portal system little twigs of the phrenic arteries, numerous lymphatics, and branches of the phrenic nerve which are destined for the serosa of the liver and for the peritineum of the anterior abdominal wall. Its importance in recent years has been that it has been a good anchoring site for the proximal portion in gastric resection, holding this part with a certain amount of fixation, thereby preventing angulation.

The ligamentum gastro-hepaticum descend from the transverse fissure, its two layers attached to the anterior and posterior borders to the lesser curvature of the stomach. Between its layers are some ascending branches of the left vagus nerve. On the right both layers unite, forming a free edge constituting the anterior margin of the foramen of Winslow. This edge whose layer is separated below and nearly closes the superior curve of the duodenum constitutes the ligament hepato-duodenale, which contains the portal vein, hepatic artery, common bile duct, lymphatics and nerve.

In percussing the side of the chest downward three regions are noted, first, one of relative liver dullness where it is covered with the lung, second, region of the costo-phrenic sinus where diaphragm and not lung intervenes, third, absolute liver dullness below the diaphragm. On the right side of the mammary line the upper limit of the liver is at the middle of the fourth intercostal space. On the left at the upper border of the fifth space. Anteriorly, it is behind the fifth, sixth, seventh, eighth, and ninth costal cartilege and the ensiform cartileges. A part of the liver surface comes in direct contact with the anterior abdominal wall. The blood supply to the liver follows a double course through the portal vein and hepatic artery, the greatest amount of blood flowing through the liver, thus differing from other organs, comes from the veins of the digestive tract and of the spleen, which unite into a great vessel, the portal vein. The hepatic artery and portal vein accompanied by numerous lymphatics and nerves ascend to the transverse fissure between the layers of the gastro hepatic omentum.

The hepatic duct lying in company with them descends from the transverse fissure between the layers of the same omentum. The relative position of these three structures is as follows: the hepatic duct to the right, the hepatic artery to the left, and the portal vein between and behind the other two. They are enveloped in a loose areolar tissue, the capsule of Glisson, which acompanies the vessels in their course through the portal canals in the interior of the organ. In the transverse fissure the portal vein splits into two trunks, right and left, for lobes of the same name at this point of division is an enlargement, the sinus vena porta.

Hepatoptosis (floating or movable liver) may be congenital, but it is usually acquired. It may descend into the lower abdomen, it may rotate on its axis, or may be upside down. In the acquired from it may come on suddenly, and if so is accompanied by pain, nausea, and great weakness. When it comes on gradually there may be no symptoms for a long time, then pain in the loin, which becomes worse after exercises. Glanards sign with the patient standing a transverse furrough of skin covers the lower part of the umbilicus. A proper fitting abdominal support or some form of hepatopexy is usually done.

There are three forms of abscess of the liver, traumatic, pyemic, and tropical. Tropical abscess of the liver is rare in temperate climates but is extremely common in the tropics. Its chief causative agent is the amoeba coli. In about 70% of the cases it is solitary. Traumatic abscesses are more common in children and situated superficiously, and the symptoms are usually acute. They are usually solitary. Streptococci, staphylococci and colon bacilli are usually found. They are generally caused by contusions. The form of liver abscess that we are especially interested in is the pyemic abscess. They are usually multiple and usually due to suppurative inflammation of radicals of the portal vein infected emboli forming and reaching the liver, or it may follow ulceration of the intestine, hemorrhoids or appendicitis. It may arise from an infected process such as pylae phlebitis, or cholecystitis. Bacillus typhosus and pneumo-bacillus of Friedlander have been found in these cases. Colon bacilli are a common cause, especially following appendicitis due to portal infection, (portal pyemia) or to lymphatic infections. Echinococcus cysts of the liver may suppurate and form abscesses. Perforating ulcers of the stomach and duodenum and it has also been seen in measles and epidemic influenza.

Among the cysts that occur in the liver are blood cysts, congenital cysts, bile cysts, and hydatid cysts.

Another very interesting abscess of the liver is actinomycosis.

Hydatid cysts of the liver are the ones for we should be especially on the lookout. In cysts of the right lobe, dullness is found in the axilary line and the growth encroaches on the pleura. In a large cyst fluctation and hydatid-fremitus may exist. This is a vibration imparted to the palpating fingers, Ballottement sign. If the cyst be large, discomfiture is produced by the dragging sensation in the epigastrium and pressure symptoms. Suppuration may take place, producing the symptoms of abscess of the liver and septicemia. Rupture may take place in the pleural sac, the lung or the peritoneal cavity. Aspiration for diagnostic purposes is not advisable, as the roentgenologist with proper plates and fluoroscopical examination can make the diagnosis in a large percentage of cases, as I have recently observed in two cases.

The most common benign tumor of the liver is cavernous hemangioma. They are frequently found at autopsy without having given rise to any symptoms. They may be very small or reach the diameter of several centimeters. On section they appear as deep purplish red, sharply outlined areas from which dark blood can be squeezed or washed out. There may be four or five in the same liver, leaving a grayish white spongy framework which seems to enclose quite large spaces which open into one another. They are lined with endothelium, but do not seem to communicate with the adjacent capillaries. Ribbiert has

shown that an injection of the angioma passes very little, if at all into the circulation of the liver. His idea of their origin from a rudiment which is destined to form blood vessels, from which they grow independently is generally accepted and the former ideas as to their being due to mere dilatation of capillaries or to the organization of hemorrhages should be abandoned. Lymph angiomatas are rare tumors of the liver as are fibromas, myxomas, and lipomas.

It is sometimes difficult to determine whether the nodular growths of the parenchyma of the organ should be looked upon as tumor formation or as the result of a compensatory hyperplasia, as any destruction of any portion of the liver causes the over-growth of the remaining fragments so that rough nodular arrangement in which the nodules are sometimes quite large are seen. However, nodules composed of irregular strands or tubules of cells which no longer stain as do normal cells, these must of course be regarded as adenomata, representing less highly differentiated liver cells or derivatives of the bile duct epithelium. Many tumors called adenomata are really adeno-carcinomatas. Malignant growths of the liver are far more common than benign, and secondary than primary. Some authorities say that 96% of liver tumors are secondary.

Melanotic sarcomas are frequently found in the liver where hundreds of rounded tumors are embedded everywhere in the tissue. Most of these are very deeply colored but some may be perfectly unpigmented. Approximately 48 true cases of primary sarcoma of the liver have been reported to date. One of these patients was well 19 months after operation, one after 2 years, and one after 7 months. Therefore operation should seem to be indicated for circumscribed growth. They may arise at any age. Growth is frequently very rapid and emaciation is soon noted. The liver is often greatly enlarged. There is always pain. They are not apt to produce metastasis and are usually of the spindle cell type. Primary carcinoma of the liver from the statistics of necropsy material occurs from two-hundredths to three-tenths percent. Their percentage of all cancers varies from 1.5 to 3. Carcinomatous tumors may spring from the bile ducts at any point from the ampula of Vater to the branches high in the liver. They almost invariably produce jaundice which may be very deep and they form a large proportion of the primary cancers of the liver and may grow to enormous masses in one or other lobe of the liver. These epitheliomatas are seen especially in the gall bladder in which there has been long irritation due to encarcerated gall stones.

There is another type of carcinoma of the liver quite different from this which is very characteristic and constant. This form originates from the liver cells themselves and occurs in multiple nodules closely set throughout the whole liver. What remains of liver tissue is profoundly scarred as in advanced cirrhosis. The liver is greatly enlarged and dark green or grayish rounded nodules project everywhere. There is usually quite deep jaundice and often a terminal hemorrhage from the rupture of a softened nodule which projects into the peritoneal cavity. These masses often project into the lumen of the portal and hepatic veins. The multiplicity of these growths and their lack of power to form metastases have caused much speculation.

The frequency of cirrhosis in cases of primary carcinoma of the liver should not only be considered but the frequency of carcinomatous degeneration in cirrhotic livers as well, and some authors express the opinion that the cirrhosis may have played a predisposing role in the formation of Sarcomas. The surgeon in examining the liver should know the different classifications of cirrhosis.

First the ordinary, nodular cirrhosis (Laennecs cirrhosis), a tropical or portal cirrhosis, hobnail liver, (alcoholic cirrhosis), the liver is rough nodular, tends to be smaller than normal, no jaundice, marked portal obstruction with a ascites and enlargement of the spleen, etiology obscure.

Second, obstructive biliary cirrhosis, the liver is enlarged, smooth or granular, jaundice, clay colored stools, scars following bile canals, usually no portal obstruction or ascites, but spleen may be enlarged, etiology obstruction of bile ducts, usually accompanied by infections.

Third, Hanot's cirrhosis, or primary hypertropic, biliary cirrhosis, the liver is large, smooth, diffusely and finely scarred, jaundice with no gross obstruction of the bile ducts, bile stained stools, no portal obstruction, splenic enlargement. Etiology obscure, but possibly an infectious process.

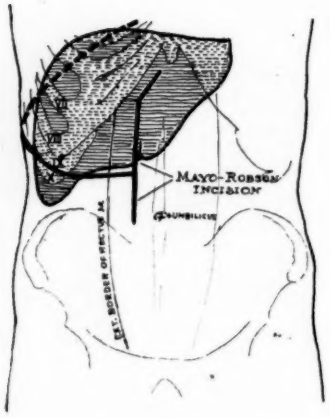
Four, syphilitic cirrhosis, congenital or acquired, in the congenital form the liver may be large, smooth, and diffusely scarred or it may present gummata which later becomes scarred. In the acquired form, gummata heal with large scars producing deep grooves and lobulations in the liver, no jaundice, no marked portal obstruction.

Fifth, tubercular cirrhosis, especially with tuberculosis of the peritineum producing thickening of Glisson's capsule with constriction and distortion of the organ; in another form with many tubercles in the liver, the process is somewhat like the syphilitic. There are unquestionably many other types.

One of the most important surgical conditions of the liver is rupture. This is usually due to very great force, and may be produced by a blow or fall or by the end of a broken rib. The posterior, superior surface and margin are most often affected. It is a very fatal accident and usually one-half of the cases die within twenty-four hours of hemorrhage. At least 80% will die if not operated upon.

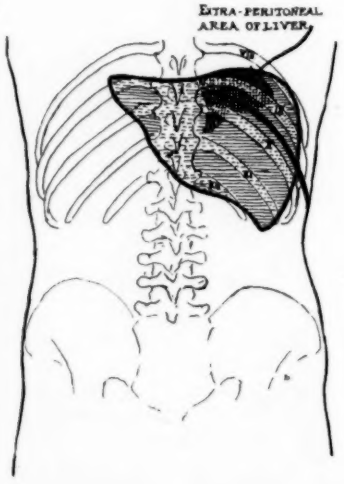
Eisendrath has collected 37 cases of suture of the liver for rupture, with 22 recoveries (59.5%). The first operation was performed by Willette in 1888. A wound of the liver not only causes violent hemorrhage but is apt to divide bile ducts and allow bile to escape into the peritineal cavity. The symptoms of rupture of the liver are those of severe intraabdominal hemorrhage with collapse, accompanied by hepatic tenderness, and respiratory embarrassment.

Having had the unusual experience of treating a great many cases of rupture and stab wounds of the liver, I am convinced that the diagnosis is not always easy, as many of these cases, especially in wounds of the superior and posterior parts of the liver have a concealed hemorrhage that does not seem very alarming until the patient is moved or transferred and a secondary alarming hemorrhage sets in. Extensive hemorrhage is due to the fact that the hepatic veins are contained in rigid canals in the liver substance and are known to contract and are moreover unprovided with valves. In several cases of mine, this has not occurred until seventy-two hours. Deaths are usually traceable to hemorrhage and its effects or peritonitis. An operation should always be done if the patient's condition will permit it.



I usually make the Mayo-Robson incision, as in all of my cases the right lobe was the one affected. Through this incision the lower surfaces and margins can be explored with proper retraction. In dealing with the superior convex section of the liver, Lanelongue operation which consists of resecting the costal cartileges of the 8th, 9th, 10th and 11th ribs and draw the ends of the ribs well out. Langenbuch's operation was to cut the coronary ligament and right lateral ligament which allows the liver to be pulled well up into the wound in the belly wall. I have seen so many cases of ruptures of the posterior and superior surfaces of the liver die from hemorrhage that I determined to try the following method of transdiaphragmatic approach to this area.

After opening the abdomen by the Mayo-Robson incision as previously described and if you discover that hemorrhage is very active, by introducing the index finger or two fingers into the foramen of



Winslow with thumb in front causing pressure and completely arrest hemorrhage after the blood has been sponged out and if the wound is marginal or on the superior convex surface where it is easily observed, I use mattress sutures of cat gut 0 or 1, with a dulox needle. This suture seems to me to be ideal for the liver, as it causes the least traumatism and cutting. If these sutures fail to arrest the hemorrhage, the liver should be sutured to the belly wall and the wound packed with iodoform gauze, and no attempt made to try packing until the liver is fixed, because the pressure will simply push the liver away and not arrest the bleeding, as I have observed on several occasions. The cautery is also very useful in small wounds.

Be sure to explore thoroughly for if the wound be due to the end of a fractured rib or splinters of ribs, they must be removed, also think of the possibility of more than one wound in the liver. If it is determined after a thorough exploration through this incision that the hemorrhage is on the posterior surface or posterior superior surface, then a transverse incision across the 9th intercostal space as shown in the illustration to the spine posteriorly. The 9th and 10th rib, if necessary the 8th rib are resected subperiosteally, care being taken not to injure the intercostal vessels and according to the technic advocated by W. W. Ashurst for evacuations of hepatic abscesses, three or four interrupted sutures of chromaticised cat gut which include the deep layer of periosteum and both layers pariatal and diaphragmatical of the unopened pleura and the diaphragm may be used.

Instead of using this technic I cut boldly through the pleura and diaphragm to the bleeding surface of the liver, relying on large gauze sponges and positive pressure anaesthesia of gas oxygen and large tank and the air spring valve advocated by Sterling Bunnell. Of course the surgeon should be on the lookout for lung collapse. The Ashurst operation above described is ideal in dealing with an abscess, as it avoids infection of the pleura and only 10 cm of rib is excised. It is a good idea in reaching the diaphragm to split the diaphragmatic fibres parallel to their course. Some surgeons prefer to use the Mikulicz tent drain in all wounds of the liver. Through this incision packing can be effectively carried out.

Conclusion:

Since the recent excellent work done by Heyd and MacNeal on hepatitis as a complication of gall bladder disease, it has stimulated other surgeons to do more surgical work on the liver than has ever been done in the past. It seems to me to be almost criminal to stand by and to see young healthy adults dying from liver hemorrhage without intervention.

Other incisions besides the Mayo-Robson incision may seem preferable to some surgeons. The Courvoisier's incision or the Kocher, Lawson-Tate and Reidel or Langenbuch's, Kehr's, known as the Wellenschmitt and the Bayonet, the Collins or the Zcernay's.

Thyroid Insufficiency and the Memory

In a consideration of the psychic state of the myxedematous and hypothyroid subjects in general, C. I. Parhon, of Jassy, and M. Goldstein, of Bucharest ("Traité d'Endocrinologie." Jassy, 1923, Vol. 1, p. 258), remark:

"The memory is more or less affected in thyroid insufficiency and, as a matter of fact, its enfeeblement seems to be one of the first symptoms in the initiation of myxedema. What is most diminished is the fixation-memory and the ability to recall the latest impressions; the impressions of earlier happenings, which are better organized, are those which are the best preserved and most easily recalled."

In this connection, the authors refer to the regression of memory which sometimes occurs in polyglots affected with myxedema. Stoïcesco and Bacaloglu reported, in 1906, an interesting case of a woman patient of theirs who knew Spanish, Hebrew, French, and Bulgarian. Under the influence of thyroid insufficiency, she could not remember French and Bulgarian, which happened to be the last learned. After being put on thyroid treatment, she recovered these languages, and in about six weeks learned Roumanian, a tongue with which she previously was not acquainted.—(*Endocrine Survey*, January, 1925.)

Pyuria

VICTOR COX PEDERSEN, A.M., M.D., F.A.C.S.
New York

Like hematuria, pyuria may vary in quantity, source, and importance. It is always a very important symptom and must be traced to a final diagnosis no matter whether the quantity of pus is obvious to the naked eye so that the specimen is hazy or turbid, or whether the amount is a constant factor in microscopical examination.

Pus in the urine always has the same general meaning as pus in any other mucous passage of the body. It is either the direct product of bacteria which should be searched for and identified, or the toxins of bacteria which may irritate the kidneys and other passages before the bacteria themselves appear. On this point one sees in acute infections elsewhere in the body microscopic pus in the urine with only a few or hardly any other signs. An examination of the urine made at this time simply foretells the onset of graver symptoms unless the focus from which the toxins have penetrated the blood is relieved.

One of the first points to be diagnosticated in pus in the urine is the source and as it may come from any part of the urinary or sexual passages of men, women and children we must consider in the male the foreskin, the anterior and posterior portions of the urethra, the bladder, one or both ureters and one or both kidneys in the urinary system; and the prostate, seminal vesicles, ampullae of the vasa, and the vasa and testes.

In the female as in the male any part of the urinary system may produce the pus, and in the sexual system we have to remember the vulva, vagina, cervix, uterus and tubes. Like blood, the pus may be recent with the cells not much degenerated, or old with the cells greatly changed. The pus may be fluid or stringy and clumped. Its course may be acute, subacute or chronic, its amount scanty, moderate or copious, and as a symptom it may intermit, remit, recur or persist.

The underlying causes of pus are necessarily infection or the results of infection. Therefore, whenever pus is found in the urine a specimen under anti-septic precautions must be taken and a careful bacteriological examination done. The reason for this dictum is that many of the important germs reach the urine through the blood stream from which they are filtered by the kidneys. During this process at the time of the early congestion they may cause small or large amounts of bleeding as stated in the previous contribution on "Blood in the Urine" and before pus becomes a factor. Later, as the congestion decreases, the bleeding may stop as a naked eye manifestation and nearly stop as a microscopical sign while the pus beginning in small quantities may augment to such an amount that the urine is creamy with it or that mixed with mucus it forms great slugs and strings. A very active germ performing in this way is the bacillus coli. Therefore, in every patient with constipation and urinary irritation a bacteriology should be done, because for a short time the bacteria may filter out of the blood without either blood or pus appearing in the urine. The bacillus typhosus behaves in much the same way so that pus or blood in the urine of typhoid patients is usually a serious and dangerous symptom.

The author has already shown that the bacillus of tuberculosis especially in so-called medical manifestation of tuberculosis may filter through the kidneys for an appreciable period before causing lesions in the kidneys themselves, the ureters, or the bladder as the most common sites for early manifestation of tuberculosis. ("Relation of Medical Tuberculosis to the Urine." Urol. & Cut. Rev., Sept., 1917.) Hence it will be seen at once that the mere naked eye recognition of pus or its microscopic diagnosis represents only half the real question and in some instances it is perhaps one-tenth of the problem.

Certain features are concerned in the pus from the various portions of the urinary system which deserve a few comments for the benefit of the general practitioner. If the foreskin is long and tight, and the child generally uncleanly or the victim of constipation or diarrhea and even independently of these conditions, copious, irritating foul-smelling pus may be seen to drip from the foreskin as rapidly almost as pus from the urethra in urethritis. Palpation of the penis will often elicit a boggy feeling back of the glans arising from accumulated and inspissated smegma. Because of the pain and irritation during urination which is in the foreskin and not in the urethra the unguarded and hasty diagnosis is made that gonoccocal infection is present. The smear and culture tests must be done in order to reach a decision not only as to the presence or absence of the gonococcus but as to the organism actually infecting the part. The scientific mind is no longer satisfied with what the author calls a halfway diagnosis, namely the determination of any one particular organism with more rather than less indifference to other organisms. In children instrumental dilatation of the narrowing in the foreskin is usually easy followed by retraction, cleansing, and the application of nitrate of silver solution 1/250. In adults a metal or glass female catheter may be passed to the depths of the foreskin and after the catheter and the penis are covered with a few thicknesses of loose gauze to catch the return spatter the whole region may be thoroughly cleansed, first with normal salt solution, then with potassium permanganate solution one in 2000. After the infection is abolished circumcision is the only proper treatment, not only as an immediate and permanent relief of the present defect, but also as a preventive against subsequent infection, notably with syphilis and frequently with gonococcal disease. The modified skin covering the glans and lining of the foreskin in these patients is on account of the warmth and moisture of the long foreskin, very thin, tender and easily infected. Of course the foregoing remarks which apply directly to simple balanitis apply with definite importance to chancroidal, chancrous, and neoplastic.

As the vulva is a very wide open organ, pus which proceeds from any part of its surface is easy of recognition, no matter what localized lesion may underly the pus. Most frequently vulvar pus is associated with vaginal pus and this in turn with uterine pus. The only way in which their various relations with the urine may be eliminated is a thorough cleansing of the parts followed by a very careful catheterization of the bladder. If the urethra is obviously also a source of the pus, the patient should be directed to call with a full bladder, evacuate sufficient urine to wash out the urethra and then be catheterized. Since we are dealing with accurate diagnosis exact methods of securing specimens must be adopted. A step not often used in the female is the two-glass test. Under it after all the foregoing steps have been adopted, the patient calling with a full bladder passes about half her urine into a sterile pus basin

which is emptied into sterile glass Number 1 by the physician, and then the second half of her urine into another sterile pus basin which is poured into sterile glass Number 2. Such a test corresponds with the posterior urethral glass in the seven-glass test of the author for the male. Urethral pyuria in the male is a very common manifestation especially on account of the incidence of venereal infection.

Gonococcal disease of the male urethra is discussed so frequently that it may be momentarily regarded as fully covered for the purposes of this contribution. One must not overlook the fact that self-treatment by patients with a few of the drugs internally administered and many of the hand injections externally applied will often provoke an active appearance of pus. It is almost of daily occurrence to see in the average clinic a young man who after illicit intercourse secured at a drug-store one of the newer and more irritating hand injections for an infection which he did not obtain from the girl. In other words, all he has is a chemical disturbance of the urethral mucosa. Parallel with this is the disturbance of the nose through promiscusus nasal douches familiar to the rhinologist and of irritated sexual passages arising from equally miscellaneous vaginal douches in self-treatment familiar to gynecologists. After establishing the absence of bacteria, the first indication is to stop all internal or external medication, allow the mucosa to come to rest, and then after about one week, decide what shall be done. Unfortunately, the average patient lacks the poise and the faith in his physician to follow an order of this kind. In such an alternative, a simple tablet such as bicarbonate of soda and an inoffensive hand injection, such as normal salt solution may be used, to quiet fears and suspicions on the part of patients. In children one frequently sees pus from the urethra due to faulty diet and irritation of the urinary passages. The author once had a child in his care who was receiving almost as much proteid food every twenty-four hours as an adult. The resulting uric acid and similar crystals in his urine were so numerous that they choked the canal and could be made to crepitate. Within about ten days after instituting proper diet all these symptoms changed without any local application within the urethra. If exact diagnosis had not been established in this patient, treatment would have been diverted from the proper channel to much less efficient and perhaps somewhat disturbing methods.

Periurethral pyuria is unknown in the female in the ordinary sense unless one wishes to consider Skene's glands within this category because they are the analogues of Cowper's glands in the male. If Skene's glands are involved and an exact diagnosis is desired, the best method is to support the urethra from below between the index and middle finger of one hand while the contents of the glands are expressed with the loop of a hairpin. No other single test for cases of periurethral pus in the male is as valuable as the seven-glass test of the author because massage may be applied to any suspected point or organ with the immediate result of developing a good specimen. The following two cases are much in point, as illustrating not only correct diagnosis but the result of neglected treatment. The seven-glass test and urethroscopy developed several old follicular abscesses in the prostate spontaneously evacuated at a period indefinitely antecedent to the examination. The outlet of such cavity was large enough to catheterize, but as they were obviously cicatrical such treatment would be useless because the cavities would never collapse and heal. Surgical intervention conservatively suggested was refused. About nine years after the disappearance of this patient from the office he reappeared at the clinic of the writer with his left kidney, ureter and bladder badly involved in suppurative processes arising beyond question from the prostatic focus so long neglected. Dilatation of the diseased ureter promoted such good drainage from the kidney that his septic absorption was brought to an end and his general condition resumed the normal so nearly, that nephrectomy was discussed. This also was refused and the patient disappeared. No doubt he will continue his migration from clinic to clinic until his good kidney begins to break down and therefore until surgical intervention is not only useless but exceedingly dangerous.

Another case of much the same type which will probably go the same way is that of a man in whom not only were multiple abscesses found of very small size but also were granulomata discovered in several of them acting as impediments to drainage and directly promoting absorption. Removal of these little granulomata with the fulgurating wire was refused either through fear or false financial economy. It was only a matter of luck that this man recovered under other methods of treatment. He has been seen since that time and appears to be perfectly well although a physical examination is not asked. Other forms of prostatic pus are advisedly and advantageously treated with electrotherapeutic methods. These do not particularly shorten the course of the disease, but they do specially procure a more permanent result. Electrotherapeutic methods are difficult and lengthy, and require special equipment and training, but they are surely the methods of the future and are slowly and surely gaining acceptance and credence in the present. For active pus the actinic influences of the high-vacuum glass electrode attached preferably to the negative pole of the high-speed static machine with the positive side grounded or to the Oudin terminal of the high-frequency machine produces definite antiseptic influence. After the pus has disappeared, in part or in whole, the fibrillary massage action of the static wave current from the positive side of the machine with the negative side grounded is more efficient than digital massage. If the potential of the current in all these methods is correctly determined and the cases properly selected, only good follows.

The frenzy for incision of the prostate and of the seminal vesicles for pus has largely spent itself and is in the discard except as a last resort on the simple basis that no operation is an unmixed blessing, and that surgery is all too often a system of subtraction only. The writer operates but never except with due caution, and never except with exhaustion of nonoperative methods by due and faithful trial. In other words, pus in the prostate and seminal vesicles is now managed about as conservatively as pus in the uterus and tubes of women. At least the latter are commonly left alone until the declining period of the disease is present or until other methods have been properly applied. In both sexes again electrotherapeutic methods are worthy of the most careful possible study and use. In contrast with hasty operation, the writer has recently had, for example, a young woman in his care who would almost certainly have undergone removal of one tube and ovary and possibly both tubes and ovaries. Contrariwise electrotherapeutic measures were carefully used with the free cooperation of the patient. The present result is a freely movable practically normal uterus, normal left tube and ovary, and very nearly normal right tube and ovary together with normal painless menstruation. Naturally in a case so complicated the treatment required many months, but in the end the result is vastly better than

any possible result of any operation whatsoever. The writer feels that the day is rapidly passing when women should be mutilated by the removal of tubes and ovaries at least not until after nonoperative electrical methods have definitely failed during a period of many months of application.

Vesical pyuria follows in the regular order from without upward to the urinary system. The distinction between pus proceeding from the lower urinary system and the upper urinary system is demonstrated by the seven-glass test of the author which may be done by anyone who has learned the principles and will give the time and I take the pains or by cystoscopy, which, however, requires the hand and eye of the expert urologist, because examination of the bladder with the cystoscope or of the urethra with the urethroscope requires not only manual skill but also experience for judging and interpreting the finding. Definite disturbance of the bladder requires investigation even when the pus may only be microscopic. The reasons have already been indicated and are embraced in the filtration of bacteria, toxins thereof, and drugs through the kidneys which produce a quality of urine irritating to the bladder mucosa while lying in it. Such disturbance may proceed not only from the urine as such but from alteration in the mucosa. It is only this way that the earliest forms of ulceration and neoplasm may come to light, and if preventive medicine means anything and has a real value, then examinations of this type are exactly those which should be undertaken as regularly as the examination of the teeth by a dentist with his mirror or of the larynx by the nose and throat specialist with his specula.

Very frequently indeed all the forms of cancer of the bladder are detected with the cystoscope. The pathetic feature of these cases is that by the time the patient begins to notice trouble at all the cancer has progressed far beyond the best possible period for surgical intervention. The general principle must not be neglected that preliminary treatment of most of these cases with the *x*-ray before the operation is done and treatment of them with the *x*-ray after the operation is over, are methods of great value. This applies particularly to the very early cases which may be removed by electrical methods through the cystoscope or the suprapubic route. The author's own custom is to apply these methods judiciously to the mucosa around the base of the tumor after the tumor has come away, and then to follow such careful treatment with *x*-ray measures. As in all such cautious treatment the difficulty is to hold the confidence and cooperation of the patient who usually wishes to cease treatment long before the proper time simply because his own measure of the improvement through his own sensations is greater than the judgment of the doctor through his experience and observation. This obstacle on the part of patients is quite as insurmountable and difficult as that of civil and economic conditions whereby patients cannot meet the just expenses of modern medicine in all its phases.

Ureteral pyuria is our next subject still following the regular order of ascent to the kidney. In the majority of examples of ureteral pyuria the pelvis of the kidney is also involved but urologists today are proving more and more conclusively the ease with which early neoplasms of the ureter and focal infections of the ureter may be recognized, through the refinements of ureteral catheterization and ureterographic *x*-ray work. Filling defects, various deformities, irregularities of course and position of the ureter are all suggestive signs. Control films must be taken for comparison with and corrobation of the primary set. In other words, in the ureter as in the bladder, that which is suspected of being a tumor must present the same general condition at at least two sittings in order to fix the diagnosis with justice and fairness to the patient. In point is the following case. A waitress had become infected with gonococcal disease which left behind the gonococcus in the vagina, vulva, and urethra. She was then attacked with a severe cystitis, characterized by a bullous edema. Of these bullae one was very dense and highly vascular. Viewed in the cystoscope and the cystourethroscope, the entire staff and the author thought that it was a very early sessile cancer which had as yet nothing to do with the cystitis because the gonococcus and the bacillus coli were the causative agents of the cystitis. Three views of this dense vascular bulla were had and seemed to prove fully the correctness of the suspicion as to cancer. About two and a half weeks of good care of the bladder so relieved the cystitis that the generalized bullous edema had disappeared nearly entirely and thus this particular bulla had so altered in form and vascularity that the diagnosis of cancer had to be abandoned. The case proves the final judgment and justice to the patient in being slow to open the bladder and fixed in the purpose of exhausting all possible diagnostic aids first.

Pyelitis is the next form of pus-producing lesion. Ureteral catheterization with a full analysis and bacteriology of the urine is the only way of diagnosing these cases. Mere pain in the kidney is not sufficient, and a peculiarity which must be remembered above all others is that the sound kidney may be more painful than the pyelitic kidney for a time represented either by a few hours or a day or two. The cause is the congestion of the good kidney in its effort to compensate for the relative or absolute inhibitation of the infected kidney. The author is surprised to recognize that very few physicians except urologists realize this fact with the result that the affected side is chosen according to the pain and not in accordance with cystoscopic findings which should never be omitted as a just duty due the patient but which are omitted in the haste of general work.

Another feature of these pyelitis cases is that a great many of them depend on stricture of the ureter, and through this stricture proceed to the formation of stones and other serious lesions of the kidney through the failure of drainage followed by decomposition and infection of the urine. In other words, we should regard the pelvis as a primary accumulating bladder directly connected with the kidney and subject to the same qualities of involvement as the urinary bladder which is the secondary or final accumulating pouch. Just as a stricture of the urethra will cause cystitis and vast changes in the bladder wall, so a stricture of the ureter will be followed by duplicate conditions in the pelvis of the kidney. This is also a fact now well recognized in the opinions of urologists, but one which is not yet properly conceived and accepted by the general professional public. Out of it grows the policy that no case of pyelitis should ever be treated except through the cystoscope and the ureteral catheter, whose size must be advanced until at least 8 or 10 French is accepted without pain. The author believes that for all these cases the olive-point catheter is more merciful to the patient and is much less apt to provoke an edema which may only add to the results of the stricture temporarily. The more manifest of these strictures give wonderful ureteral pyelograms because the ureter down to the site of the stricture is dilated and often the pelvis itself somewhat deformed.

(*Concluded on page* 105)

Vacationizing in Winter

MAUD E. WYCKOFF

Yonkers, N. Y.

The car was a Ford coupe. The passengers, two young women bound for Florida for a fifteen day vacation. They accomplished their purpose and lived to tell the tale.

The reason for relating this tale is that if two girls can take such a trip safely, why should not others emulate their example?

We believe in winter as well as summer vacations and this story is told to stir up doctors to the necessity of taking trips like this themselves and prescribing them for their patients who need rest and change, but whose spare change may be more or less limited.

We left Yonkers early on the morning of December 20, 1924. Crossing the Hudson River at 42d Street, New York, we followed the Lincoln Highway to Philadelphia, where we had luncheon. Leaving that city we looked for the "Tourist Route South" sign, but missed it so we were in Villa Nova before we struck an excellent road leading to the Baltimore Turnpike. A hearty dinner in Baltimore and then on to Washington, where we arrived at 8 P. M. with 270 miles behind us and both feeling fit.

Early the next morning we were away. The roads in Virginia were hard and dusty. The bridges across streams are mostly one-way affairs and have a decided tendency to make an S or Z turn when the car was about in the middle of the stream.

We were going down one long hill very slowly with a bridge at the end and a car on our left hiding the turn in the bridge. As we approached the narrow part of the road we saw a car coming across the bridge at a rapid clip. We were cornered. It was a case of going into the bridge or into the other car, so we took the bridge.

The only protection between us and the water was a three-rail fence and the top rail extended beyond the others. It caught us and held us while the other car dashed by like the wind. We backed off with nothing worse than a little dent in the fender and the feeling that the Lord takes care of fools and women.

Leaving Richmond we took the wrong road and found ourselves in Amelia Court House, instead of Petersburg. We had followed arrows all the way routing us to Danville. We decided instead of going to Danville to head for Chase City, but some wrong turns found us at dusk with no sign of a town. I got out my flashlight and my revolver (each of us carried one) and went to a negro cabin to ascertain our location. "Lawsy, ladies, you is a long way from Chase City. You'se most to Keysville." As a result we had to turn back, retrace our tracks and finally reached Chase City at 8:30 o'clock in the evening, where we found a clean and comfortable hotel.

The next day we finally got on to our originally mapped out road, going through Oxford, Durham, Chapel Hill and Southern Pines at Cheraw, S. C., where we spent the night.

We stayed at a fine looking hotel where there was steam heat with no steam and we were locked in a room by a key which did not fit the lock. When we wanted to emerge, the hotel people after working for an hour, finally got us out by opening a door to a connecting room. Great fun!

North Carolina roads were fairly good, but those in South Carolina were not so good. From Cheraw we went through Camden, Columbia, Aiken, into Augusta, Ga. As we approached Georgia rain began to fall and from there on our real fun began. We had left home Saturday morning and Tuesday night found us in Millen. Ga. Leaving there Wednesday morning the road to Waycross was a sea of beautiful red or black mud with many deep hidden holes. Poor "Lizzie" was a sight.

Twelve miles from Alma we found ourselves out of gas. The darkey in Millen had neglected to put the cover on the tank and as the old bus pitched and rolled in the heavy going we were dry, and so was the car. Luckily for us, two cars came along, one a New York car and one of the drivers said, "What's the matter, girly, out of luck?" and we replied, "No, out of gas." There is a friendly feeling when State meets State and these New Yorkers who were on a camping trip to Miami helped us out and we were safe until we got to Alma. There we were told it had been raining for three days. The roads showed it.

We followed the Woodpecker Trail and that country certainly looked as if the woodpeckers had been active thereon. We were determined to reach Jacksonville Christmas Eve, so despite a bad detour at Folkston with deep sand and ruts we pushed "Lizzie" through and reached Jacksonville, where we found it hot and sticky, with many fireworks, all of which seemed more like the 4th of July than Christmas Eve. We put the car in for washing and some new brake bands but we decided never to do it again unless absolutely necessary. Instead of leaving at 8 A. M. Christmas morning it was 3:30 P. M. before we could start. That's Southern speed.

During the trip we were intensely interested in the change of vegetation and this was particularly noticeable in Florida. Cotton, peach trees, pecan groves, mistletoe, bananas, oranges, grape fruit, Spanish moss hanging from the wonderful trees, of which palmetto, palms, long needle pines and magnolias were samples. St. Augustine was reached at dusk Christmas night and we would have loved to examine more carefully the many old places there but we had been invited to Dayton for Christmas dinner at 2:00 P. M. and it was then 6 P. M. and our destination 75 miles away. We tried to make it, but our lights acted badly and we had to put up for the night at Hastings where it took a mechanic 2½ hours the next morning to redo the work which had been done the day before.

On the way down to Daytona we had to keep a careful look-out for woods, cows and wild pigs. They live in the open highway and have a unique method of getting in front of a car when you are least expecting it.

The roads were splendid and we reached Daytona on Friday, Dec. 26th at 1:30 P. M.

Of course we had to see Ormond and take a drive on the beach, and inspect John D. Rockefeller's home with its beautiful hedge of poinsettas.

In view of the conditions on the way down, we decided not to attempt to go farther South than Daytona and so, after a good night's rest we turned our faces northward on Saturday morning, December 27th. We also concluded not to go back over those muddy roads in Georgia.

Returning to Hastings we went via Palatka to Gainesville, through long, badly rutted roads called shell roads. From there to Lake City, we had 50 miles of perfect

road and we spent Saturday night at White Springs on the banks of the Swanee River. It was a chilly evening and the appearance of a lot of hunters and their dogs who had come in to warm up before the rousing fire in the fireplace reminded one of our own Northern country. On Sunday we pushed on through rough but not bad roads to Macon, Ga., where we spent the night. On Monday we travelled through rain all day and reached Columbia, S. C., about 5 P. M., where we went to the Gresham. There for the first time in a week we got warm. The hotel put on no style but there was plenty of heat and hot water. Tuesday we started by the way of Charlotte. The roads were high crowned and very slippery. We saw many cars ditched and we thanked our good fortune when we reached Salisbury, N. C., in good condition. Wednesday we started out over a fine cement road to Danville, Va. It was raining hard. Just outside Danville we found an awful detour of 6 miles. Pulling in to Keysville at dark we found it filled with stalled tourists going South. They had been held up there on account of "impassable roads." Those were the very roads we had just come over!

That was New Year's Eve and a rather cheerless one it was, too. During the night the rain turned to ice and all New Year's Day we drove with the windshield open because the ice on it made the scraper useless. At Richmond we thawed out and had the windows cleaned with knives and alcohol, but at a little place in the woods we found the real cure for ice on the windshield. A boy put fine salt on it and this worked like magic. We spent the night at Hilltop Inn., Beaver Dam, Va., and there we had the best "eats" of any place on the trip except in the homes of the friends whom we had visited. Early Friday morning we got out on the icy roads, but with these roads and deep snow south of Alexandria we were only able to make Washington that night. Friday and the next day were the poorest days from a driving standpoint on account of the deep snow and the fellow ahead getting stuck. Southerners don't know how to handle snow as we do who are more accustomed to it. We made Philadelphia Saturday night with deep snow all about us and reached New York Sunday with still more snow, but we were very happy and had a wonderful time. In the language of the street, it was some trip. We had loads of fun and were so busy enjoying ourselves that we had no time to get tired. In 15 days we drove 2,700 miles, used up 210 gallons of gas, had no sign of tire trouble, and expended about $80.00 a piece.

A little boy said to me after I returned home, "Did you go all the way to Florida in a Ford?" and I replied, "Yes, Jimmie, and all the way back, too—in the same Ford." "Humph. I heard of two peaches who came all the way from California in a can."

Be that as it may, if some of you doctors who read this will take a couple of weeks off and take that trip you will have many a thrill and will, I doubt not, come back feeling quite as peppy as the two girls whose story you have read.

PECULIAR MISHAP DURING TONSILLECTOMY

CHARLES ROSENBAUM, M.D.,
New York

This strange and unusual accident is recorded so that others may be on a lookout for such a possibility. Teeth that are partially necrotic may loosen up during tonsillectomy and drop down to the larynx unobserved.

The patient was an adult, who was being tonsillectomized under general anesthesia. After the removal of the right tonsil the patient suddenly stopped breathing. The anesthetist felt that the anesthesia was at fault and wished to stimulate the patient while resorting to artificial respiration. I immediately pushed the suction tube down to the epiglottis thinkink that mucus or blood had blocked the larynx. To my surprise up came a capped tooth which had become loose and had dropped down to the larynx. After the tooth was fished out it was found to be a lower incisor the gingival margin of which was almost entirely necrotic. Had this happened before the days of the suction machine another death would have been blamed on the anesthetic. The operation was finished without any untoward event.

107 W. 123rd St.

A CASE OF TUMOR GROWTH STIMULATION BY INSUFFICIENT RADIATION

J. COLEMAN SCAL, M.D.,
ADJUNCT OTOLARYNGOLOGICAL DEPARTMENT, GOUVERNEUR HOSPITAL; CHIEF OF CLINIC OTOLARYNGOLOGICAL DEPARTMENT, BETH ISRAEL AND GOUVERNEUR HOSPITALS.
New York

According to some authors, radiation that fails to kill tumor cells may stimulate their activity, thus causing an increase in the size of the tumor growth. Since radium is now so extensively used, this is of great importance. In untrained hands, it can become a factor of great harm. The following is a case in point.

P. D. Male, age 38. Admitted to the Beth Israel Hospital, January 9, 1924. Family history negative. Previous history showed his habits had been good. No tobacco or alcohol had been used. Present illness dated back to four months prior to admission, when he found it difficult to breathe through the nose. He called at the clinic, where on examination a mass was found in his naso-pharynx. Pathologically, a piece of the growth showed epithelioma.

One ten milligram needle was inserted into the growth, and kept there from two to three hours twice weekly. After such treatment for two months, the tumor increased in size, and a large mass appeared at the left side of the neck, below the angle of the jaw. A few days later, another mass appeared below the angle of the right side of the jaw. Swallowing became so painful that he took practically no food.

Examination of the patient upon admittance to the hospital showed an adult male, apparently quite ill. Eyes, ears, nose and teeth were normal. The throat was congested, and the saliva very abundant. The soft palate was bulging, red, and somewhat oedematous. Behind the soft palate, a large fungiform growth, which bled upon examination, was evident in the nasopharynx. The neck showed a mass the size of an egg below the angle of the left side of the jaw. A smaller mass existed under the angle of the right side of the jaw. A Wassermann test was negative. An *x*-ray examination of the chest showed increase of the hilus markings, otherwise negative.

As the patient was very emaciated and weak from lack of food, a gastrostomy was performed on January 25th, 1924. On January 26th, twenty-three seeds of radium emanation, each approximately 0.5 millicure were injected into the tumor in an attempt to check the growth. The patient died the following day.

Comment

In this case, after a diagnosis of epithelioma was made, large doses of radium undoubtedly would have caused the destruction of the growth. Instead, the small ten milligram doses probably stimulated the tumor cells and caused increase of the growth, with rapid metastasis to all the glands of the neck. In an effort to destroy the growth, a very heavy dose of radium emanation was injected, but the patient succumbed to the gastrostomy before we could obtain any result.

44 West 74th Street.

Cocoa and Chocolate

FRANKLIN W. BARROWS, M.D.,
Albany, N. Y.

In his "History of the Conquest of Mexico" William H. Prescott gives us an appetizing sketch of the epicurean dinners in which the great emperor Montezuma indulged his extravagant taste. Speaking of drinks he says:

"The favorite beverage was the *chocolatl*, flavored with vanilla and different spices. They had a way of preparing the froth of it, so as to make it almost solid enough to be eaten, and took it cold. It had the consistency almost of a solid; and the 'Anonymous Conqueror' (Prescott's authority) is very careful to inculcate the importance of 'opening the mouth wide, in order to facilitate deglutition, that the foam may dissolve gradually, and descend imperceptibly, as it were, into the stomach.' It was so nutritious that a single cup of it was enough to sustain a man through the longest day's march."

Elsewhere he tells us:

"The emperor took no other beverage than the *chocolatl*, a potation of chocolate, flavored with vanilla and other spices, and so prepared as to be reduced to a froth of the consistency of honey, which gradually dissolved in the mouth. This beverage, if so it could be called, was served in golden goblets, with spoons of the same metal or of tortoise-shell finely wrought. The emperor was exceedingly fond of it, to judge from the quantity—no less than fifty jars or pitchers—prepared for his own daily consumption. Two thousand more were allowed for that of his household."

Compared with these gluttonous drafts of the sixteenth century our modern chocolate creams, fudges, sundaes and what not, with all our seductive combinations of cocoa seem quite insignificant and harmless. No need to warn this age against adopting the Mexican menu of a half millenium ago, which contained little if any sugar!

But consider these facts. Since Columbus discovered the cacao and carried back to Spain a few of the wonderful "beans" from which chocolate was prepared, the tree has been introduced into Asia, Africa, and many of the islands of the East. In 1892 an enterprising planter on the Gold Coast of Africa exported twenty pounds of cocoa—the first ever harvested in Western Africa; thirty years later the Gold Coast led the world with a crop of 156,271 tons, valued at over twenty millions of dollars. For over a quarter century the United States has consumed more cacao than any other country, our share in 1922 being about 143,000 out of a world's crop of 411,000 tons. For every inhabitant of the nation we imported 3.2 pounds in 1920, against half that amount in 1916. To furnish the world with this delicacy five hundred million cacao trees are bearing fruit and seventy thousand laborers are caring for the crops, beside the thousands of employes who manufacture cocoa and chocolate from the cacao beans. The tree that old Linnaeus, the botanist, christened theobroma, "the food of the Gods," is now the food of every gamin who can raise a penny for a square of cheap candy. Shall the medical profession encourage the popular demand for this tempting article that is both food and drink?

The cacao "beans" of commerce are seeds borne in pods on a tree about the size of an ordinary peach tree. After these seeds have undergone a fermenting process they are cleaned, dried and exported to the factory where they are roasted and ground to a powder. In the course of the milling process they are deprived of a portion of their oil, or fat, which is pressed out in the form of the well known cacao butter. When about 50 per cent of the butter is expressed the resulting mass is easily reduced to a dry powder which by an unpardonable perversity of speech is called cocoa, although it has not the slightest relationship to the milky coconut or any of its products.

In making chocolate the beans are ground into a pasty mass retaining all the oil or "butter," sugar is mixed with the mass in proportion of 50 to 75 per cent., and it is flavored to suit the will of the manufacturer by adding small amounts of roasted coffee or almonds. Usually vanilla is the principal source of the aroma so much admired by lovers of chocolate, though it may be supplemented by anise, cinnamon, nutmeg, balsam of Peru, gum benzoin or attar of roses. The choicest brands of chocolate are blends of several varieties of beans. Knapp[1] quotes a formula containing different proportions of beans from Caracas, Para, and Trinidad, with 55 per cent of sugar and a flavoring of vanilla.

This delectable viand has been accorded a high rating, both as food and stimulant. The first two analyses below are taken from Bulletin 28, Office of Experiment Stations, U. S. Dept. of Agriculture; the third is from Dr. Plimmer, quoted by Knapp.[2]

	Protein	Fat	Carbohydrate	Calories per lb.
Chocolate	12.9 per cent	48.7 per cent	30.3 per cent	2768
Cocoa	21.6 per cent	28.9 per cent	37.7 per cent	2258
Cocoa	18.1 per cent	26.8 per cent	40.3 per cent	2214.5

To this exhibit we must add three very important constituents of chocolate and cocoa: theobromin 0.95 to 2.2 per cent; caffein 0.1 per cent; and oxalic acid 0.45 per cent,—according to Lorand[3] "more oxalic acid than any other food substance." There is also a small content of tannin and 2 to 6 per cent of ash which is relatively rich in magnesia and phosphate.

It is said that tests made by the Austrian Army showed that chocolate was equal to 5 times its weight of beef as a nutritive. This may be inferred from its high caloric value as shown in the above analyses. It is therefore, as Cushny[4] says, "a true food," although a food inordinately rich in fat and usually taken with a large allowance of sugar. What happens when such food plays even a minor part in the diet? The large oil content retards the digestive secretions, causing dyspepsia, which is aggravated by the local effect of the theobromin. Absorption of the proteins and fats is delayed. Hunger appears to be satisfied while in reality the appetite has been dulled by the pernicious effect of this ill assorted food on the stomach lining. Cushny concludes, as quoted above, that the food value of cocoa and chocolate is often overestimated.

In the "soluble cocoas," so called, some of the fat is saponified by alkalies, usually carbonate of potassium. If the mixture is too alkaline it tends to neutralize the gastric juice.

---

[1]Arthur W. Knapp, The Cocoa and Chocolate Industry, pg. 126.

[2]Loc. cit., p. 121.

[3]Arnold Lorand, Health and Longevity through Rational Diet, pg. 319.

[4]Arthur R. Cushny, "Text Book of Pharmacology and Therapeutics," eighth edition, p. 298.

About fifty years ago Peter, of Switzerland, brought out the first "milk chocolate," by some people regarded as an ideal food. A pound of this chocolate contained a pint and a half of milk, five ounces of cocoa powder, and seven ounces of sugar,—a combination, perhaps better balanced than most other sorts of cocoa products, but better fitted to the uses of a rich confection than a staple food.

As a stimulant cocoa is in the class with coffee, tea, and maté, by virtue of its alkaloid, theobromin, which differs but little from caffein in its chemical formula. The two drugs are far from identical in their physiological action however. According to Cushny[5] "theobromin resembles caffein in its effects, except that it has little or no action on the central nervous system." It is also "a more powerful diuretic and generally has no other effects in man." Heathcote,[6] experimenting on the mammalian heart, concludes that theobromin is preferred as a coronary dilator and general cardiac stimulant—as for angina pectoris—and can be given in four times the dose of caffein without marked stimulation of the nervous system. It is generally conceded by physiologists that theobromin has no injurious effect on the kidneys, notwithstanding its vigorous action as a diuretic. Knapp, quoted above, says that the theobromin content of cocoa is less than the amount of caffein in tea but twice that contained in coffee. We may safely agree, therefore, with the dietitians who claim that chocolate and cocoa may be used by those who cannot take coffee or tea without suffering from wakefulness. We cannot go quite so far as Forchheimer who permits such folk to drink chocolate ad libitum.

Cocoa, prepared with a generous supply of milk, is now in great favor as a food and drink for children. If it is merely a cup of milk colored and flavored with a bit of cocoa and slightly sweetened there seems to be no convincing argument against giving it to children under 10 years of age.

In this review of a food-stimulant that has been highly extolled by generations of our ancestors, and is daily growing in favor in our own homes, we have dwelt briefly upon its virtues but have barely alluded to its deleterious qualities. There has arisen a new school of physicians who are today reconsidering the whole group of which cacao is one member. They are meditating the virtual prohibition of tea, coffee, cocoa,—even tobacco—as dangerous vehicles of habit forming alkaloids. Will total abstinence win or will an enlightened race learn to use even the tempting alkaloids with intelligent and temperate restraint?

We grant that there is enough peril in the indulgent eating and drinking of cacao products to serve as a serious warning to every victim of the traditional "sweet tooth," for, after all, it is usually the sugar that makes the chocolate go down. Finally, we must not forget the baleful effects of oxalic acid which literally poisons all our delicious chocolate and cocoa concoctions, although the dose may be small. We caution all who read to beware of the seductive influence of cocoa and chocolate. If more rigid counsels than ours prevail and the extremists have their way then away go cocoa, chocolate, *et hoc genus omne*.

[5]Loc. cit., pg. 295.

[6]Reginald St. A. Heathcote, Journal Phar. & Exp. Therap.—16:327.

Throat Ailments of the Voice User

JOHN A. GLASSBURG, M.D.

ASST. VISITING LARYNGOLOGIST TO THE NEW YORK CITY CHILDREN'S HOSPITAL; ASST. VISITING LARYNGOLOGIST TO ST. JOSEPH'S HOSPITAL; SURGEON, EAR, NOSE AND THROAT, STUYVESANT POLYCLINIC; ASST. EAR, NOSE AND THROAT, BROAD SRTEET HOSPITAL,

New York.

Despite all hygienic measures, because of the constant use of the vocal apparatus by singers and speakers, these individuals are predisposed to particular ailments of the throat. The most common of these ailments are sore throat, pharyngitis, elongated and relaxed uvula, loss of the voice, enlargement and infection of the tonsils and laryngitis.

The Sore Throat

The term "sore throat" covers a multitude of disturbances ranging from a slight inconvenience to an acute inflammation with or without pus formation. There may be just a feeling of discomfort or one of actual pain. Usually there is dryness of the back of the throat, some difficulty in swallowing or an interference with the normal articulation. Such sore throats may be caused by a change in the weather, exposure to cold or dampness, an irregularity in the diet, too much smoking or direct contact with one already suffering from a similar complaint. The treatment consists of a regulation of the diet, a cleansing out of the gastrointestinal tract and local medication to the throat. Antiseptic mouth washes, soothing lozenges or astringent gargles may be employed depending upon the type of congestion present.

Pharyngitis

Pharyngitis is the name given to the inflammation of the lining membrane of the back part of the throat. The membrane is swollen and red. The inflammation may spread to the adjacent structures and involve the tonsils, uvula and fauces. Repeated attacks develop into a chronic phayrngitis, known as "clergymen's sore throat." This chronic affair is characterized by granular elevations in the throat, an excessive dryness and a hacking cough. The acute form is caused by a cold, but the chronic form is usually due to straining the voice beyond its natural registers. The treatment is directed to a correction of the faulty use of the voice and removal of the granulations.

The Elongated Uvula

The uvula is the small piece of flesh hanging down from the extreme rear of the soft palate. It can be readily seen if the mouth is opened wide and a mirror is held in front of it. An unusually long uvula incites a tickling sensation which forces the subject to hack and cough. It gives the feeling of a foreign body in the throat and there is consequently a constant desire to get rid of it which results in repeated attempts at swallowing or expectoration. The fatigue of the vocal apparatus produced by an elongated uvula may affect the timbre of the voice and cause inability to sustain high notes and long passages. The treatment of this condition is specific and consists in the surgical removal of the excessive part. It has been observed by some investigators that removal of the uvula is followed by a gain in the upward range of the voice.

The Tonsils

The tonsils are two glandular organs situated in the throat, one on each side, near the base of the tongue. Inflammation of the tonsils is not infrequent in voice users. A simple, acute tonsillitis may incapacitate for a week or longer. The routine treatment is rest in bed, active catharsis, cold applications to the throat and an astringent gargle. At times painting the throat may be necessary. Silver nitrate 10 per cent or tincture of iodin may be used. Excellent results have been obtained by the use of collene, used in full strength by direct application or prescribed as a gargle diluted to one-half. Its advantages are that it is clean, does not stain and, though strongly antiseptic, has no irritating effect.

Repeated attacks of tonsillitis brings up the question of operation. As a general rule, it may be stated that less the interference with the throat the better for the voice. However, occasions do arise when surgical intervention is indicated. Briefly speaking there are two types of tonsils that should be removed, the obstructive tonsils and the diseased tonsils. The obstructive tonsils are those which are so large that they cause difficulty in swallowing, breathing or speaking. The diseased tonsils are tonsils that are the seat of frequent attacks of tonsillitis. They are tonsils which show deposits of cheesy matter and may have been subject to quinsy sore throat.

Enlargement of the Lingual Tonsil

Underneath the rear part of the tongue lies an accumulation of glands which is known as the lingul tonsil. Enlargement of the lingual tonsil is due to repeated inflammations or constant irritation in the back part of the mouth. Sufferers usually complain of a sensation of tickling, an irritation, a desire to retch, hawk, cough or spit and of becoming easily tired when speaking or singing. Because of its hidden position this gland is often overlooked. On the other hand when it becomes enlarged to a marked degree it is easily mistaken for the faucial tonsil.

If there are no symptoms present the enlargement should be left alone. When it is a source of trouble the best treatment consists in its surgical removal. Local applications may relieve but they do not cure.

Acute Laryngitis

The larynx or voice box is the seat of most of the troubles of the singer or speaker. Acute laryngitis is an acute inflammation of the lining membrane of the larynx. It is generally due to improper use of the voice, excessive smoking, dusty occupations, catching cold, poor ventilation, exposure of the feet and body and improper bathing. The voice becomes hoarse or is even lost. There may be pain and labored respiration. The vocal cords may or may not be involved. The treatment consists of complete rest to the voice, active catharsis, the inducement of perspiration, the application of cold compresses to the neck, confinement to a warm room and the use of soothing sprays.

Chronic Laryngitis

Chronic laryngitis may be caused by the air being inhaled through the mouth, the nose being obstructed by adenoids, deflections of the septum (the bone dividing the nose into a right and left chamber; enlargement of the nasal bones, polypi and occlusion of the sinuses. Faulty speaking or singing leads to a chronic irritation of the larynx. The excessive use of alcohol or tobacco congests the larynx. The voice is husky, particularly upon rising. At first there is a loss in the range of the voice and the sustenance of a note is diminished. There is either too much or too little secretion. As the disease progresses, hoarseness sets in and eventually the voice may be lost. The treatment consists of removal of the cause, the avoidance of tobacco and strong liquors, rest to the voice, inhalations of steaming vapors, local applications and constitutional remedies. Recovery is best in the early stages of the disease. At all times it is slow and gradual. Great patience and faithful adherence to treatment are necessary to obtain a cure.

Singers Node

Much is heard of the singer's node. This is a small growth along the border of the vocal cord. Very often the node is a complication of a chronic laryngitis. It is due to faulty breathing and has been compared to a corn resulting from an ill-fitting shoe. There may be one or more nodes. Because of their location, nodes affect the middle register. Any singer having difficulty with her middle register should have her vocal cords examined by means of the laryngoscope. The treatment consists of rest to the voice and proper methods of respiration and voice placement. At times the local application of astringent remedies is indicated and in extreme cases surgical removal of the nodes becomes necessary.

Sudden Loss of Voice

There is one condition in which the voice is lost that should not pass unmentioned, that is, spasm of the vocal cords. The ailment affects professional voice users and is similar to the writer's cramp of the professional author. The voice is suddenly lost, perhaps in the midst of a conversation, and all attempts to gain speech are unavailing, until, suddenly there is a relaxation and a return to normal. In such cases, the laryngoscope shows that the vocal cords are close together in a tight spasm. Treatment consists in refraining from speaking or singing, a change of climate and the adoption of hygienic measures. The nervous system should be examined, for very often spasm of the vocal cords may be only a symptom of a general nervous disturbance.

103 East 10th Street.

NOCTURIA AND ITS TREATMENT

FRANK WM. PORTERFIELD, M.D.,
Waterloo, Iowa

May I present a method of treatment which may not be familiar to everyone but which in my hands has brought me more thanks from patients than almost any simple procedure I have ever carried out. One of the trying experiences in men above middle age with prostatic hypertrophy is the disturbed rest and sleep due to the necessity for frequent micturition at nights.

For the past ten years I have made it a routine practice to give these patients a chocolated coated four grain tablet of chromium sulphate, which can be easily obtained at any wholesale drug house. I have never yet given it to any of this class of patients who have not been greatly benefited. In many instances the getting up nights has been avoided entirely. It should be given for considerable periods such as from two or six months, one tablet four times daily. Following marked improvement the drug can be continued in a desultory way, one or two daily, or omitted entirely for a few weeks and then begin again. I don't know the "how" of it, but it works.

Danger of Neo-Arsphenamin in Syphilitics with Malaria

Marinesco and Draganesdu report the history of a woman suffering from general paralysis. She had also latent malaria which flared up after six injections of neo-arsphennamin (total 2.4 gm.) and proved fatal.—(*Bull. de "Acad. de Med.*, December, 1923.)

Obscure Atypical Diseases of Otitic Origin Met With in Everyday Practice*

WILLIAM SIEGMEISTER, M.D.

ATTENDING OTOLARYNGOLOGIST, UNITED ISRAEL ZION HOSPITAL; INSTRUCTOR IN LARYNGOLOGY, NEW YORK POST GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Brooklyn, N. Y.

I shall treat only those cases usually seen by the internist and general practitioner and shall start with the external auditory meatus and proceed inward.

Impacted Cerumen

This is of everyday occurrence and usually does not cause much disturbance. The symptoms are stuffiness in the ear, sometimes sudden deafness, usually following the introduction of water after bathing. Although easily diagnosed, this condition may cause many disturbances of reflex origin such as cough, due to irritation of the auricular branch of the vagus. It is spasmodic in character, very annoying and resists all kinds of treatment until the mass is removed. Another condition brought about by impacted cerumen includes the neuralgias, affecting not only the ear but spreading over the temporal and super-orbital regions and sometimes involving the entire distribution of the trigeminus. There may be dizziness, vertigo, nausea and vomiting due to pressure on the drum membrane and ossicular chain. This increases intra-labryrinthine pressure. Cases have been reported in which not only the auditory function was impaired but the entire mental condition was disturbed. The patient, not being able to concentrate, became melancholy. Cases have been reported in which epileptiform seizures have resulted from pressure of impacted cerumen, foreign bodies or cholesteotomatous masses in the external auditory meatus.

These conditions may be easily diagnosed by every physician by looking into the ear and may be treated by the removal of the cause.

Cerumen is best removed by syringing with warm sterile water. I never advise the use of the curette as the lining membrane of the external auditory meatus is very tender and is very easily injured.

Cholesteatomatous masses, which have hardened have been mistaken for impacted cerumen. This mistake may be followed by grave consequences because by using water in an ear that has a dry choleostatoma we may induce an acute exacerbation of a chronic, purulent, middle ear with the danger of an intracranial complication. Professor Neuman says that patients come to the physician with impacted cerumen and leave the office with a meningitis.

In differential diagnosis study the history. Never syringe an ear with a history of chronic purulent otitis when it is dry. Choleostatoma looks dryer and harder than cerumen. It is composed of concentric layers of exfoliated epithelium, cholestrin and debris. It has a characteristic offensive odor.

Acute Otitis

Most physicians know that high fever in young children is frequently due to an acute otitis. Yet there are a few points that I wish to speak about. In young children there is no bony external canal, as it is usually collapsed. The drum membrane instead of being in the vertical position as in the adult is almost horizontal. In order to obtain a good view of it, the auricle must be depressed downwards and backwards instead of being raised upwards and backwards as in the adult. Gross mistakes in diagnosis are frequently made by the inexperienced.

I have seen ears pronounced normal which were purulent. The mistake was due to the drum membrane looking white because it was covered by a layer of exfoliated epithelium, the removal of which with a cotton swab, dipped in a little liquid albolene, showed a red bulging membrane. We must see all the landmark: light reflex, short process, handle of hammer. The drum membrane must be of a shining, pearly appearance to be considered normal. I have seen ears, on the other hand, which the physician declared as acute purulent and which he described as having a red and bulging membrane, which were only cases of myringitis bulosa, the vesicle being mistaken for a bulging drum. In one case I saw a paracentesis done by a physician who mistook a hemorrhagic spot on the drum membrane which was produced by trauma that he caused trying to clean the ear. The rest of the drum membrane was normal.

Spontaneous rupture of the membrana tympani does not occur in children as early as in adults. The drum membrane in children is much thicker and tougher in structure, so it is inadvisable to wait for the occurrence of the rupture because complications of serious nature may arise meanwhile.

A paracentesis done without obtaining any pus does not mean that it was done too early. On the contrary, pure yellow pus following the knife shows that it was done too late.

Do not expect the temperature to drop to normal right after the paracentesis is done. The normal fall of temperature is by lysis. Fall by crisis is rather an indication of low resistance and is a bad prognostic omen.

Streptococcus Mucosus Capsulatus Otitis

This is a part of otology that every physician should know something about. It is rather new and very few text books on otology mention it. It is of very common occurrence and very often goes unrecognized, leading to disastrous results. It is caused by a capsulated coccus which is thought to belong to the pneumoccus type 3. It has a great affinity for bone and cerebro-spinal fluid, causing great bone destruction of the mastoid process and tegmen tympani and antri. Intracranial complications occur more frequently and earlier in the course of this disease than in any other form of acute otitis. The onset is very mild with very few symptoms. There is hardly any pain, very little discharge, if any it is of a sero-mucoid character. The drum membrane picture resembles secretory catarrh. The landmarks are visible and the color is slightly reddened. These cases are frequently overlooked and when the patient comes to the aurist for operation there is usually a serious complication present.

* Read before the New Utrecht Medical Society.

During my stay in the Vienna clinic I have observed numerous cases of the above mentioned type. I will cite a typical case:

A laborer, 58 years old, visited his physician, an otologist, complaining of a slight ear-ache, which lasted two days. He had no fever, no mastoid tenderness, no bulging; the drum membrane was slightly cloudy and landmarks were distinctly visible. Paracentesis brought out slight mucous discharges. The pain entirely disappeared, but the hearing in that ear was not normal and the patient complained of a heavy feeling on that side of the head. The physician, not satisfied with the patient's condition, kept him under observation for four weeks, and not finding any improvement, sent him to the ear clinic. He was put in a ward for observation. Not being considered a case for immediate operation, he was put on the waiting list. On the third day after admission, the patient, while playing cards, was taken with a severe chill, lasting fifteen minutes. His temperature rose to 104°. He was operated on at once and his entire mastoid was found to be full of pus. The sinus was found open, containing a large thrombus. The tegmen antri and tegmen tympani were destroyed. The pus showed streptococcus mucosus in pure culture. This was a typical case of streptococcus mucous otitis, the symptoms at the onset and early course of the disease being mild, and all classical symptoms of a mastoiditis being absent, yet a serious complication was found when least expected.

The diagnosis is made on the history and appearance of drum membrane:

Though it apparently looks normal, in reality it is being cloudy and having lost its shiny, pearly appearance. It looks like paper dipped in oil. The hearing is usually affected. It does not improve by air inflation. There is a feeling of organ-consciousness on that side of the head. X-ray may show destruction of mastoid cells. Bacteriological examination of secretion, if any, may show the micro-organism.

Sinus Thrombosis

This is a lesion that occurs more frequently than is usually supposed. Cabot, in his book on Differential Diagnosis (vol. 1, page 410) cites a case of a patient whom he saw four weeks after a mastoid operation, running a temperature of step-ladder type, and on examination did not show any sign or symptom by which the lesion could be localized, except for a group of typical rose spots scattered over the abdomen, disappearing on pressure. Widal reaction was negative and diagnosis of typhoid was made. On post-mortem there was found a septic thrombosis of the lateral sinus and jugular vein. There was no sign of typhoid.

The typical book cases that occur in the course of acute otitis are comparatively easy of diagnosis. But many cases do occur, complicating an acute exacerbation of chronic purulent otitis, running an atypical course and unless a thorough history is taken and a complete ear examination made, the diagnosis will be missed, with disastrous results to the patient. These cases are usually treated by the internist. The aural surgeon is in most cases called too late. I will cite two cases that I have observed, to illustrate the foregoing.

One afternoon, a telephone message came to the ear clinic from a general hospital, inquiring whether a chronic otitis in an adult can produce high fever. They had been treating a patient with influenza of ten days' duration. The patient did not show any complication of heart, lungs or kidneys, yet he had been running a very high fever. The patient was transferred to the ear clinic. On examination we found the patient unconscious, temperature 105°, pulse 140 and one ear showed typical, chronic, middle ear suppuration. There was no sinking of posterior, superior wall. He was operated on immediately. The entire sinus from bulb to turcula was found thrombosed and the sinus wall obliterated. Exitus next morning.

Another patient walked into the hospital, looking very ill. On examination a chronic purulent otitis was found with acute exacerbation. No mastoid tenderness and no sinking of the posterior superior wall was detected. The temperature was 104°. Professor Neuman did not feel like operating on him with such ear findings, unless he could account for the temperature some other way. A well known internist was called in and he diagnosed the case as pneumonia, so the operation was postponed. For the next three days the condition did not change and the temperature remained the same. On the fourth day the patient began to show meningeal symptoms. He was promptly operated upon, and again they found a thrombosed sinus. The autopsy showed a beginning of basal meningitis. No sign of pneumonia was found.

Neither of these cases showed the typical septic temperature, no chills, no bacteremia, and both had large thrombi in the sinuses.

To sum up, sinus thrombosis is a very frequent disease, almost always of otitic origin, and its course and symptoms do not always follow the book descriptions. Whenever we have a patient with a high temperature which is not explainable in any other way, think of the ear, and if the patient has a history of acute or chronic middle ear suppuration, we are justified in opening the mastoid, and if we find pus and granulation in it, then explore the sinus. Professor Neuman claims that just as the general surgeon is justified in doing an exploratory laparatomy, so is the aural surgeon justified in doing an exploratory mastoidectomy. He considers the latter a safer and shorter operation.

In children there is sometimes a condition described by Körner as osteo-phlebitis. It is of otitic origin. There is no visible thrombus in the sinus, but the small vessels of the mastoid bone are thrombosed, producing very small emboli, so small that they pass the lungs and kidneys without producing infarcts. They have a predilection for the large joints, producing metastatic abscesses. The clinical picture is high fever, either septic or continuous in type, and a purulent arthritis, single or multiple. The origin of the infection being in the mastoid, it clears up when the mastoid is operated upon. I have observed a number of these cases. It is evident that here there is no need of ligating the jugular.

Labyrinthine Symptom Complex

The first one to recognize and describe what is called the labyrinthine symptom complex or syndrome was Prosper Meniere, who in 1861 read a paper before the Imperial Academy of Medicine in Paris, describing it fully after observation of numerous cases. The first case that led him to this research was that of a young woman who was sitting alongside of him in a stage coach, who was apparently in good health. Suddenly she was seized with an attack of nausea, vomiting and vertigo, which was followed by complete deafness. She was taken to a hospital and died on the fifth day. Autopsy showed no lesion in the cerebellum, spinal cord or any other organ. Careful examination of the inner ear showed a bloody, fibrino-plastic exudate in the vestibule and semi-circular canals. No microscopic examination of the cochlea was made. From his further studies and observations, Meniere concluded that many cases that the general physician comes across, where an individual who is apparently in good helath, is stricken with a sudden attack of vertigo, nausea, severe abdominal pain, and which is usually diagnosed as biliousness, acute gastritis, kidney or heart lesions, etc., and do not show any definite signs pointing to the lesion, they are really due to disturbances in the semi-circular canals. This has been accepted by the medical world as Meniere's disease.

When various observers began to study cases presenting the above named symptoms, confusion arose.

They have classified all cases of labyrinthine diseases as Meniere's disease. As time went on, a great army of students have followed up this work with marvelous results. Special mention must be made to the Vienna school of otologists, foremost of whom is Professor Barany, who received the Nobel prize for his contributions to science on this subject. By studying the anatomy, physiology and pathology of the labyrinth, they have put it on a scientific basis, so that at present we are able to examine its function and integrity with accuracy and precision, just as carefully as the ophthalmologist examines the retina. By this examination light may be thrown on many obscure conditions of interest not only to the otologist but also to the internist, neurological surgeon, ophthalmologist and syphilologist.

In order to get a clear understanding of the labyrinthine symptom complex it will be necessary to give a brief review of the physiology of the same.

The labyrinth is a special sense end organ. It has a special cranial nerve for its supply. It consists of two parts and has a double function. One part is the cochlea, the end organ of hearing. The other part is the vestibule with the sacule and the utricule and the three semi-circular canals, the end organ of equilibrium, controlling what we call the seventh sense, the kinetic static. Both parts of the labyrinth are enclosed in a bony capsule and have the same fluid circulating throughout. These fluids communicate with the sub-arachnoid and dural spaces. The vestibule communicates through the vestibular nerve with the medulla, pons, cerebellum, cerebrum, with the nucleii of the third, fourth, sixth and tenth cranial nerves, and with the spinal nerves, supplying the muscles and joints of the trunk and extremities. It is the end organ of the kineto-static mechanism, just as the retina is the end organ of vision. Disturbances within the labyrinth will produce symptoms due to its disturbed function, such as deafness and disturbed equilibrium, commonly called vertigo. It will also give disturbances of reflex origin such as nausea and vomiting, due to its communication with the vagus. It will produce nystagmus due to communication with the nucleii to the fourth, third, and sixth nerve. It will produce past pointing, due to its communication with the cerebellum and spinal nerves.

The functional examination of the labyrinth is made possible by the fact that we are able to produce all the above mentioned symptoms by irritation of the labyrinth without injury to it and with very little disturbance to the patient. We can produce labyrinthine nausea and vomiting, nystagmus and past pointing by turning the patient, irrigation of the ears by hot and cold water and the galvanic current. We are able to irritate the three semi-circular canals separately, each one giving a reaction characteristic of itself. By this test we can tell the integrity of the organ as a whole, or in part, of its communicating tracts. We can diagnose many intercranial lesions at the floor of the fourth ventricle and cerebellum. To illustrate: Dr. Jones of Philadelphia described a case of a tumor of the cerebellar-pontine angle diagnosed by the fact that while the labyrinth on the same side of the lesion gave no response to any stimulus, and exhibited complete deafness, the labyrinth on the other side had normal hearing and gave normal reactions when the horizontal semi-circular canal was stimulated, but no reaction could be obtained from the vertical semicircular canal. He cited also another case of a patient that came to the hospital for operation, diagnosed as a tumor of the right cerebellar hemisphere. The diagnosis was confirmed by a consulting neurologist, and also by *x*-ray. The operation was postponed by the suggestion of the otologist, who found normal past pointing reactions in all directions and by all the extremities, proving that there was no lesion in the cerebellum. The patient improved by treatment and left the hospital within a month and subsequently gave birth to a child and remained well for two years when last she was heard from.

These are only two illustrations how useful and far-reaching complete functional examination of the labyrinth may be as an aid in diagnosis. While complete functional examination of the labyrinth can be done only by a trained otologist, yet by keeping the above mentioned facts in mind, every intelligent physician can diagnose labyrinthine disease if he looks for it. Any case presenting symptoms of vertigo, nauses, vomiting, ataxia, labyrinthine nystagmus and impaired hearing is of labyrinthine origin. Even Meniere in his masterful description of the above syndrome, failed to describe nystagmus, which he probably overlooked.

A Few Points About Examination:

Examine the hearing of each ear separately. If the hearing of one ear is impaired, note which one. Labyrinthine nystagmus is distinctive. It differs from ocular, central or any other form of nystagmus. The plane of labyrinthine nystagmus is mixed, horizontal and rotary. Pure vertical (up and down) nystagmus is not labyrinthine. It is rythmical and has a slow and quick component. It is usually at the opposite side of the lesion. It lasts only for about two weeks. Any nystagmus lasting longer than two weeks without diminishing in its intensity is not labyrinthine.

Labyrinthine vertigo may be subjective but it is usually objective. The patient imagines objects turning around him, the direction of which is from the diseased to the healthy side of the body. When severe we find the patient lying on his healthy side so as to have his eyes pointing to the slow component of the nystagmus.

Ataxia

There is a tendency of the patient to fall to his diseased side. If the patient is in bed this can be tested by raising his head directly, his face pointing forward, and he will fall to the diseased side. Labyrinthine ataxia is differentiated from other ataxias in that we can change the side of falling by shifting the position of the head. Supposing the lesion is in the right ear, we have nystagmus to the left and the patient falls to the right. By turning his face to the right shoulder the patient will fall backwards. By turning his face to the left shoulder, the patient will fall forwards. In other forms of ataxias, the position of the face has no effects on the side of falling.

All these tests can be made by the physician at the bedside in a very short time without any disturbance to the patient. They have always been found reliable.

4915-14th Ave.

Cosmetic Defects and Their Treatment*

OSCAR L. LEVIN, M.D.

INSTRUCTOR AND CHIEF OF CLINIC, CORNELL UNIVERSITY MEDICAL COLLEGE AND CLINIC; DIRECTOR, DEPARTMENT OF DERMATOLOGY AND SYPHILIS, BETH ISRAEL AND UNITED ISRAEL ZION HOSPITALS; ADJUNCT DERMATOLOGIST, MOUNT SINAI HOSPITAL; AND ASSOCIATE DERMATOLOGIST, MONTEFIORE HOSPITAL.

New York

The question of cosmetics is vital because many an individual's happiness or misery depends largely upon the pleasant or repulsive impression which the appearance of the face creates. The face is of prime importance not only because it is the register of our sentiments and character, but because it is largely a measure of the proper or improper functioning of our physiological processes. While a person's general expression may be congenial, intelligent and interesting, it is often made entirely repugnant by the ravages of cutaneous disease which destroy the beauty and appeal of a healthy skin. A repulsive skin is always instrumental in ruining a person's opportunity for social advancement, business achievement and general happiness.

Unlike the other important and vital organs of the body, the protection of the skin of the face has not been provided for by nature. It is uncovered and therefore exposed to the wear and tear of climatic and atmospheric conditions. It is constantly made the butt of all sorts of abuse by medicines, poor cosmetics and various and sundry artificial irritations. Combine these external means of abuse with the general maltreatment to which we all subject our internal organs and one has laid the foundation for all kinds of skin affections. One need only see the mass of cheap advertisements in the newspaper, magazines and journals to realize how extensive must be the field of skin complaints and how deep the misery of the afflicted individuals of untold numbers of high and low grade quacks and charlatans can flourish on the vague promises of cure and false rays of hope which they hold out.

Only a physician can recognize intelligently the true nature of these cutaneous eruptions and only sound scientific treatment can eradicate the diseases and some of their after effects.

It is my purpose to explain briefly what makes a good skin and how to keep it; and, what things contribute to a bad complexion and how to prevent or properly treat them.

A good complexion does not necessarily mean peaches and cream, for the fine, delicate texture of a pale skin often makes an exquisite complexion. A good healthy skin may be light or dark, but it has a healthy gloss and a transparant, lifelike surface, with good muscle tone and a firm consistency. There are no large, gaping, pilo-sebaceous follicles and pores. It is free from excess oiliness and yet is not too dry; it is free from dullness and sallowness, free from blackheads and whiteheads, excessive hair and the various abnormal pigmentations. It is, of course, free from any eruptions and cutaneous affections, from growths and other blemishes.

Most of us begin life with such a skin. It is our birthright, and the problem of retaining this marvelous heritage resolves itself clearly into a curriculum of good habits—good habits of eating and sleeping, good physical and personal habits.

Although the subject of hygienic measures, like sanitation, exercise, ventilation, fresh air, proper food, comfortable clothing, avoidance of excesses, plenty of rest, and everything included under preventive medicine, has become a trite and hackneyed subject, I mention it here because I wish to emphasize its importance in preventing and treating cosmetic defects.

The regulation of the diet is of prime importance. Our food should consist of a mixed diet including proper proportions of proteins, fats, carbohydrates, vitamin-containing foods and salts. The foods should not be very hot, spiced nor filled with condiments, for it is these things which are often responsible for the reflex dilatation of the blood vessels of the skin, leading to telangiectasias and congestion, and predisposing the skin to infections and chronic inflammations. Because of their deleterious effect on the skin only a minimum of stimulating beverages, like tea and coffee should be taken, and of course alcoholic beverages should be interdicted for those who react poorly to them. For different types of individuals a variation in the diet is indicated. For example, for those who show, characteristically, a full, round face with a skin of a peculiar cyanosed pallor, dilated posterior pharyngeal vessels, a swollen, glazed, red tongue, and chronic conjunctivitis, there should be a distinct reduction in carbohydrates. On the other hand, for those whose cheek bones are more or less prominent, the tongue coated and who show a golden brownish hue with telangiectasias on the sides of the neck, there should be a reduction in the protein content of the diet.

All people should drink plenty of water between meals, and meals should be eaten at regular hours and the food thoroughly and slowly masticated.

In addition to the diet, another great contributing factor to a good complexion is proper sleeping habits. It is not only necessary to have a sufficient number of hours of sleep, but one must learn to rest and relax in order to relieve the stress and strain of daily life. This is especially important for individuals who show a sympathicotonica. It is this type of individual who is predisposed to disturbances of the chromoffin system and when tire begins to show pigmentary changes. They may develop spots of increased pigment as in chloasma, or they may be afflicted with loss of pigment in areas, as in vitiligo. Such people tend to develop urticaria and angio-neurotic edema when they get physically or mentally exhausted. For vagotonics sleep is an important factor in stabilizing the vasomotor tone.

The greatest enemy of a good complexion is constipation with its resultant auto-intoxication and skin eruptions. It is found associated most often with acne, rosacea, seborrheic eczema, metabolic eczema, erythema, urticaria, and infections like folliculitis, furunculosis, and carbuncles. It is always advisable therefore, in preventing or treating cosmetic evils to pay particular attention to the gastro-intestinal tract.

There is no better tonic for the skin as well as for the rest of the body than a proper amount of exercise in the open air and sunlight. However, we should be careful at all time to avoid overexercise, unnecessary strain and excessive fatigue.

The use of good soaps is essential. As we all know, soaps are chemical combinations of fatty acids and alkalies, and the action of the soap depends upon the liberation of the constituents on contact with the water, and the saponification of the grease and fatty substances

* Paper read before The New Utrecht Medical Society, November, 1924.

on the skin. The greater the content of the alkali the stronger the reaction, and this reaction often is violent enough to produce an inflammation of the skin. The best soap for the normal skin is one which is neutral or as nearly neutral as possible, and it is my custom to recommend the common neutral bath soaps with which we are all familiar, or castile soap. The strongly alkaline soaps should be used only in those cases where it is desirable to produce an inflammation or an exfoliation as in acne vulgaris. There is no advantage in using any of the expensive perfumed and medicated soaps. The only important things to be considered are that the fat used is not rancid and that the alkali content is low. Medicated soaps are practically of no value.

The use of plenty of water on the skin is always indicated for maintaining a good complexion. Hot water should be used only for cleansing purposes once or twice a day, whereas, cold water is employed several times a day with a good neutral soap or one which is only very slightly alkaline, in order to improve the vasomotor tone, and cause the proper contraction of the skin muscles and to favor the proper functioning of the glands of the skin, resulting in the development of a firm, healthy skin of good color.

Let us now consider what constitutes a bad complexion. Plainly, a skin which has one or several of the defects which a good skin should not have. There is little reason, however, with the scientific means at hand and the abundance of sound knowledge about the treatment of cosmetic blemishes why a poor complexion should be tolerated.

It is the sebaceous glands of the face which very often, depending upon their degree of activity, make or break a good complexion. Excess oiliness ruins an otherwise good complexion. The face becomes shiny and greasy, and the nose especially, which is the seat of innumerable glands, assumes a most uncomfortable glossiness which cannot be powdered away. Such a skin becomes fertile ground for the formation of blackheads which are the initial lesions of acne vulgaris, or as the vernacular would have it, pimples. This conditions is the most harassing of all cosmetic defects. We are all more or less familiar with comedones or blackheads. They appear as pinpoint-sized, slightly elevated, conical papules which are the result of an abnormal heaping up of excessive numbers of stratum corneum cells in layers like those of an onion. It is these oval-shaped bodies which fill up the pilo-sebaceous follicles, and not, as is commonly believed, dirt or skin worms. The comedone is usually followed by the appearance of papules, pustules, indurated and inflammatory masses, sebaceous cysts and scars. Individuals who develop acne usually show constitutional defects. They may have hyperglycemia or a high normal blood sugar content, a low alkali reserve, constipation, carbohydrate fermentation and menstrual disturbances. Acne is always aggravated by the presence of these conditions.

There is no reason, however, for any person who is afflicted with this cosmetic evil, to develop inferiority complexes, for there are therapeutic measures which can can affect a cure. The treatment consists in great part in the correction of the diet, reducing especially the carbohydrates and stimulants, in gastro-intestinal supervision, removing intestinal fermentation, in general tonic measures and alkali and organotherapy. The blackheads may be removed by gentle, mechanical expression and the skin stimulted to a more healthy action by means of frequent applications of cold water. Excessive irritation should be avoided. Astringent and keratolytic lotions containing sulphur, mercury or resorcin, are often useful in their treatment, but the best prophylactic measure is the daily washing of the face with neutral soap and cold water. For the purpose of removing the excess secretion of fat and the shiny, greasy, appearance of the skin, nothing is better than soap and water and the abstinence from creams which interfere with the proper functioning of the glands of the skin, enhancing the possibility of secondary infections and pustule formations. To massage a skin which has an acneiform eruption in order to stimulate the skin is a fallacious idea. It only spreads the infection.

These procedures will often remove those factors which are known to be favorable to the development of acne lesions, but for a permanent cure in the shortest time, fractional doses of the *x*-ray, combined, of course with these hygienic measures, constitute the method of treatment par excellence. The *x*-rays remove the acne lesions, reduce the tendency to hyperkeratosis and comedone formation, and diminish the excess oily secretion. Radiotherapy must be employed carefully with correct technique and proper judgment, else it is hazardous. I might say here that *x*-rays do not cause scarring, and that those scars which are seen on the skin after the acne has been cleared, are due to the fact that the lesions themselves have had a devastating effect upon the skin constituents. I wish therefore to emphasize the value of radiotherapy for the results obtained in acne vulgaris are little short of magic.

Practically every case of acne is complicated by seborrheic eczema. This common condition not only affects the skin of the face, but usually originates in the scalp where it may lead to the destruction of the hair. It is the most frequent cause of premature baldness. It is characterized by excess oiliness, pruritis of the scalp and the presence of inflammatory patches and yellowish and grayish white scales, commonly called dandruff. On the glabrous skin inflammatory patches with dry and greasy scales, papules and keratoses may appear. Those general measures, which are indicated for the treatment of acne vulgaris are likewise here employed, combined with frequent shampoos, local hygienic measures and the use of anti-seborrhoeic medicaments like sulphur, tar, mercury or resorcin. The treatment is usually begun with a fatty preparation in the form of an ointment containing salicylic acid, mercury or sulphur. Subsequent to the disappearance of the inflammatory signs, the treatment is continued with applications of lotions containing antiseborrheic drugs and stimulants like cantharides, capsicum, quinin, tar and pilocarpin. Exposures to the ultra-violet rays from the Alpine and Kromayer mercury vapor quartz lamps are very valuable, and stimulation by heat, electricity and vibration are often beneficial.

Frequently there appear on the face discrete papules and plaques and keratoses. These lesions may be removed by those remedies employed for seborrheic eczema of the scalp. Salicylic acid is used to dissolve away the thickened epidermis, caustics like trichloracetic acid for the infltrated plaques and radium, the *x*-rays and other destructive measures for the keratoses.

A common cosmetic defect is that of rosacea, an obnoxious skin affection attacking usually the middle of the face, including the middle of the forehead, the chin, nose and adjacent parts of the cheeks. This condition is produced by changes in the blood vessels resulting in passive congestion and telangiectosias. After a while these manifestations become complicated by the development of red papules. Through infection pustules appear and ultimately from prolonged congestion there may be developed fibrous tissue resulting in tumor-like formations and an enlarged, disfigured nose known as rhinophyma. Rosacea is due to internal disturbances which cause reflex congestion of the skin, but some-

times it is caused by tight fitting eyeglasses or too heavy spectacles obstructing the local circulation. At one time the prevailing opinion was that only heavy drinkers developed this condition. It is true that excess wines and liquors tend to produce this dilation of the delicate vessels, but frequently it is brought about by hot drinks of a stimulating nature, like tea and coffee, or by hot, highly seasoned foods.

Not all skins are predisposed to the development of such defects, but for those sensitive skins which react to the slightest stimulation, it is best that the danger of developing such conditions be avoided by eliminating such foods from the diet. However, when the condition does appear it is advisable to use astringent applications for the congestion and electrolysis for the telangiectasias. For the hypertrophies applications of caustics like trichloracetic acid are indicated and often surgical operation becomes necessary for the most advanced stages. X-rays have occasionally a valuable therapeutic effect on the papules and growths in this condition and sometimes it may be necessary to use radium rays for the hypertrophies. In women in whom such a condition accompanies the menopause, administration of proper gland secretions in addition to local therapy is useful. Dilute hydrochloric acid is of value in cases where the gastric secretion is diminished.

Many skins, fine in all respects including tone, color and texture, are completely disfigured by a superflous growth of hair. Thus the female beard, moustache or thickened eyebrows become a matter for cosmetic treatment. Those who in their distress have resorted to the use of depilatory preparations have learned by bitter experience that while the immediate after effects are satisfying, the subsequent appearance of a thick stubby growth is inevitable. Such a condition of excess hair growth can be removed by the proper employment of electrolysis. If the work is skillfully and carefully done, it affects a permanent cure and leaves little or no scarring. The process besides being slightly painful is fatiguing and wearisome, but when one considers that it permanently removes an inconvenient hindrance to beauty, it should be given serious consideration. The *x*-rays may be employed for the removal of superfluous hair but their use for this purpose causes certain changes in the skin at the same time, and it is mentioned only to be condemned unless one has practically a heavy masculine beard or moustache, the removal of which counterbalances the appearance of atrophic changes and telangiectasias. Peroxide and ammonia water may be employed to bleach the hairs.

Innumerable healthy skins are disfigured by abnormal pigmentation. Some people when exposed to ultra-violet rays tan evenly, but others, due to an irregular distribution of the pigment cells in the skin, tan in small spots as in ephilids or freckles. These individuals should of course avoid too much exposure to sunlight and in the summertime protect their faces by means of red, brown or yellow brimmed hats. There is consolation in the fact that freckles tend to disappear spontaneously in later life, but most of us are not content to wait for results until we are middle-aged, and so treatment for freckles becomes an important issue. The various freckle creams advertised are of practically no value, for this coloring cannot be removed except by treatment down to the point where the pigment is lodged. For the removal of freckles the best treatment is by means of applications of phenol, or of a strong bichloride of mercury solution. Strong peroxide may be used to bleach the pigmented spots, but the effect is only temporary.

Internal derangements which affect the chromaffin system may result in abnormal hyperpigmented patches, known as chloasma. Disturbances of the gonads, the liver and intestines are the most frequent cause of chloasma, and it tends to appear in those who are more prone to disturbances of the chromaffin system. The treatment indicated here is the same as for freckles, combined with internal treatment for stabilizing the functions of the endocrine and vegetative nervous systems and correction of the disorders of the other organs.

On the other hand there are those who are unfortunate enough to suffer from lack of pigmentation, a condition known as vitiligo. For these there is little encouragement, for pigment which has vanished is hardly ever replaced. Little is known as to the cause of this disappearance of pigment, but some cases of vitiligo have been cured by the internal administration of pituitary gland and thyroid. The leukoderma of syphilis disappears with anti-syphilitic treatment. However, in most cases of vitiligo, nothing more can be done than to paint the depigmented spots with some dyes. An excellent water insoluble preparation is a fluid extract of walnut dissolved in a five percent solution of carmine in aromatic spirits of ammonia and alcohol.

Complexions which are in a general way good are often marred by small hypertrophies and benign and malignant growths like nevi, xanthomata, warts, keloids, scars and tumors.

Nevi or birthmarks, may be hairy, vascular or pigmented. They may appear at birth, soon after birth or later in life. Most people who are affected with these usualy disregard them because they are not as a rule troublesome. However, when they are conspicuously situated on the face or when they begin to show signs of enlargement, they become a matter for medical treatment. For the treatment of hairy nevi, the individual hairs must be destroyed by means of electrolysis and the rest of the tumor removed by one of the many methods like carbon dioxide snow applications, electrolysis, electro-cautery endothermy, trichloracetic or radium applications. Small lesions are best removed by electrolysis. The *x*-rays do not seem to benefit these hairy nevi.

In the case of vascular nevi, most beautiful cosmetic results are obtained by means of radium applications. The best effects are achieved in treating the elevated type of vascular nevus. The telangiectatic type or flat lesion does not respond as quickly or as well to radium treatment. Unfiltered radium rays, that is, the beta rays, are used for the small, shallow nevi, while the filtered, or gamma rays are employed for angiomatous and deeper lesions; that is to say, more than one centimeter in depth. For the superficial, flat nevi applications of caustics like trichloracetic acid or carbon dioxide snow and ultra-violet rays are very good, while for the very small spider-like nevi, the electro-cautery or electrolysis is the best. The *x*-rays are of no value for vascular nevi.

The question is often asked whether vascular birthmarks should be removed immediately. It is best to treat them immediately for they usually enlarge and become more difficult to remove as time goes on. Only very rarely do they disappear spontaneously.

Pigmented nevi or moles have always been associated with superstitions and fears. These are of course unfounded, and it may be said that there is little danger if the operation is performed with skill and the lesion completely destroyed. If possible, we should avoid removing or irritating in any way the very black pigmented nevi, because there is always the possibility when dealing with these, of stimulating them to growth and the formation of melanomas. The usual moles which are encountered may be removed with good results and practically no scarring by means of radium, endothermy,

electro-cautery or carbon dioxide snow, and the very minute ones may be treated by electrolysis. It is very important to remove those nevi which are so distributed as to be constantly irritated. For example, those on the bearded part of the face are most frequently stimulated to growth by the constant irritation of shaving.

The usual warts which we see are the common verrucae vulgaris and the so-called juvenile warts. These may be removed with very good results by means of trichloracetic acid, endothermy or electro-cautery. *X*-ray therapy is indicated when they are grouped in circumscribed aeras and often radium may be employed. These growths may also be removed by means of curettage and trichloracetic acid applications. Arsenic often hastens their disappearance and prevents recurrences. Sometimes juvenile warts may disappear under the internal administation of protiodide of mercury.

Xanthomas, which are buff-colored lesions, most frequently occurring on and around the eyelids, constitute a distinct cosmetic defect. Their appearance is coincident with a high cholesterol content of the blood and disturbances of the liver and gall bladder. These lesions may be readily removed by electrolysis, radium applications or excision, but I have found that applications of trichloracetic acid applications is the best and most expedient method. In an effort to avoid a recurrence of the xanthomata, measures must be prescribed to regulate the gastro-intestinal, hepatic and gall bladder functions, and to remove cholesterin producing foods from the diet.

Facial scars and keloids may originate from acne, folliculitis, furuncles, abscesses, tuberculosis, syphilis or cancer, and of course from smallpox and varicella. They may also develop subsequent to wounds and burns.

It is much simpler to prevent scarring from the various cutaneous diseases by an early institution of the treatment, than it is to cure them. The primary lesion should be guarded against irritation and infections and the inflammatory lesions soothed.

In the case of scars developing secondary to the primary lesion, the best preventative means is the early management of the original condition. Early treatment with *x*-rays and radium will achieve a good cosmetic effect on scars which develop subsequent to burns and wounds. The surgical excision of keloids is frequently followed by a recurrence of more extensive scarring and for these individuals, as well as for those who are afflicted with idiopathic scars, the *x*-rays and radium yield the best results, producing fine, superficial, pliable atrophies.

In discussing cosmetic defects, it would be fitting to deal with those cutaneous conditions, which, while they are not really defects in the sense that they are chronic or persistent, at the same time constitute cosmetic evils. Such conditions as folliculitis, ivy poisoning, eczematoid conditions, psoriasis, pyogenic infections and the various types of dermatitis caused by chemicals, hat band dyes, the lacquers of Mah Jongg sets, should be discussed, for they disfigure the face and are frequently encountered. However, there is sufficient to be said about these eruptions to warrant a sequel to this talk, and since my time is limited I cannot take these up at this time.

In conclusion, I wish to repeat that the problem of cosmetic treatment cannot be divorced from general medicine. The physician must employ his varied knowledge of medicine in combatting those systemic disturbances which cause abnormal developments on the skin and aggravate efflorescences on the surface of the body. However, one who would treat cosmetic defects must of course be able to interpret the clinical symptoms of the defects in terms of their microscopic pathology, and at the same time be acquainted with the microscopic changes produced by the various agents upon the structure of the normal and abnormal skin. In addition to this, the physician who would treat cosmetic defects must be thoroughly acquainted with the external physical and chemical agents which modern science has placed at our disposal. Such factors like the *x*-rays and radium, affecting as they do, a painless and permanent cure, have not only revolutionized the methods of treatment, but have completely changed the outlook on the ultimate results.

5 East 53rd Street.

The Therapeutics of Bronchopneumonia in Children

J. Epstein, M.D.,
New York

In no disease is proper treatment so essential to success as in bronchopneumonia in early life. Many diseases are self-limited, some have specific remedies, while bronchopneumonia is neither a self-limited disease nor has it a specific remedy. The treatment must therefore be based on the general condition of the child, the etiologic factors, the pathologic processeses, and the complications.

Lobor pneumonia usually affects healthy children, while bronchopneumonia mostly attacks the ill and debilitated. In the majority of cases, bronchopneumonia follows in the wake of measles, influenza, whooping cough, general weakness, and upper respiratory tract infections. The condition is therefore serious from the start.

Quite a variety of microorganisms are present in bronchopneumonia of which the pneumococcus, staphylococcus, streptococcus and the influenza bocillus are the most common. Pathologically the affection involves the entire respiratory system extending from the nasal passages to the bronchopulmonary tissue. It is a true respiratory disease and the successful termination depends a great deal on the entegrity of the respiratory system. The mucous membrane as well as the deeper layers undergo pathological changes. A glance along the bronchial tree would reveal areas of congestion, swelling, exudation, and distorsion with some atelectasis and bonchiectasis. In addition to these changes there is a spasm of the bronchioles due to an irritation of the respiratory nervous system.

The onset is usually gradual. Some upper respiratory tract infection precedes the pneumonic process. The child looks ill, cyanotic, and air hungry. The cough is almost constant and the expectoration is either swallowed or brought up with insufficient force to the upper respiratory outlet only to fall back along the bronchi.

Physical examination varies with the extent of the involvement of the bronchopulmonary system, the size of the bronchi affected, their location with reference to the surface of the chest, the bronchial swelling and the spasm. The milder cases differ very little from ordinary bronchitis, except that the child looks ill and the tem-

perature is too high. In the severer types of bronchopneumonia, the examination may reveal only an occasional deep seated râle or there may be a generalized bronchitis with râles of various sizes and musical qualities. The general condition of the child, the fever, the panting respiration, the cyanosis, the cough, the subcrepitant or crepitant râles, specially when localized, with or without consolidation, make the diagnosis.

Treatment

The most essential treatment is prophylaxis. Every child with measles, whooping cough, influenza or bronchitis is a potential pneumonic. All upper respiratory tract infections in children may be considered as the first stage of bronchopneumonia. No child with bronchitis should be dismissed with a bottle of cough medicine, but, when possible, should be kept in bed, and treated as a mild bronchopneumonia.

When the diagnosis is made, the child as well as the illness should be treated. Anything that will add to the child's strength will increase his resistance to the infection and will bring about a self-cure. Proper feeding with milk, cereal gruels, cooked fruits, fruit juices, meat juices or broths, is important. This should be modified according to the age and the digestion of the child. The little patient should be kept in a warm, sunny room with an abundance of fresh air. Care should be taken not to allow the child to lie too long in one position.

The application of counterirritants to the chest in bronchopulmonary affections is based more on tradition than on scientific reasons. Cupping does more harm than good. It frightens the child, traumatizes the skin and has neither a direct nor a reflex therapeutic action. The common practice of applying camphor oil, mustard oil, turpentine, or other volatile, irritating and penetrating oils to the chest is indefensible. What is most desired in bronchopulmonary affections is to keep the patient in an atmosphere of warm, fresh, soothing air and not have him bathed in an ill smelling, pungent air coming from his own body and irritating the mucous membrane of the respiratory tract. The venerable practice of anointing the skin of the chest with lard or other fat does nothing beyond keeping the child in a greasy filthy condition. When the bronchopneumonic process is diffused and the peripheral circulation is poor, mustard paste or mustard mixed with ground flaxseed, made into a paste, and applied warm all around the chest, will do much good. In milder cases, a thin layer of absorbent cotton kept next to the skin of the chest and changed frequently or a warm flannel shirt is all the counter-irritation the little patient needs.

Hydrotherapy in bronchopneumonia is not as essential as in the lobar type. As the temperature is remittant and vacillating, the hyperparexia requires little hydrotherapertic measures. The child is better not disturbed except for a daily washing with tepid water. In the severer cases cool sponging reduces the temperature, and allays restlessness. To a vigorous child the application of a cold compress to the chest, made by dipping two or three layers of linen into water and then applying snugly to the chest covered with a heavy layer of flannel, will do much good. This should be changed every one or two hours.

The care of the nasopharynx is an important part in the treatment of bronchopneumonia. As this is an upper respiratory tract infection, and the original focus of infection may be in the naso-pharyngeal region, it should be douched with some mild antiseptic solution as liquor antisepticus alkalinus diluted with 3 or 4 parts of warm water.

Medicinally only a few drugs are necessary in the treatment of bronchopneumonia in early life. In the milder cases, potassium citrate with tincture digitalis and tincture opium camphorated in the proper dosage will do much good. In the severer types of bronchopneumonia, atropine, strychnine, digitalis, and codeine are the four most essential drugs. They should be used with care and discretion according to indications. Atropine stimulates the respiratory system, dries up the excessive bronchial secretions and relaxes the bronchial spasm. In very small doses it does not paralize the vagus but acts as a vagus stimulant, causing a slowing and strengthening of the heart. Strychnine is a cardio-respiratory stimulant. Digitalis will always serve as a cardio-vascular support. Codeine quiets the little patient, quiets the cough, relieves pain, diminishes the bronchial secretions and strengthens an overactive heart. These drugs may be combined to meet the exigencies of the case. Whiskey or brandy as stimulants are always valuable. The dose is to be regulated by the age and the condition of the patient. There is no need for nauseating expectorants, numerous prescriptions, and overdrugging.

Oxygen inhalation is of doubtful value. There is plenty of oxygen in a well ventilated room where there is a constant current of fresh air. The intravenous injections of mercurochrome in bronchopneumonia in children has given in some cases good results. A one per cent solution of mercurochrome in sterile water in the proportion of 0.005 gram per kilogram of body weight is commonly used. Vaccines and serums, while enthusiastically praised by some, have not established their therapeutic claim in bronchopneumonia in early life.

Of the complications, empyema, lung obscess and gangrene are the most important and belong mostly to surgical therapeutics. Protracted bronchopneumonia, delayed resolution, and cases that terminate in pulmonary fibrosis or tuberculosis should be sent to the country and given nourishing food, cod liver oil, and other tonics as indicated.

Summary

Bronchopneumonia is quite common in early life both as a complication and as a terminal infection. It can be largely prevented by building up the health of the child and by thoroughly treating all upper respiratory infections. Sick looking children with bronchitis should be treated as bronchopneumonia. Cupping and the application to the chest of ill smelling and irritating oils and ointments are therapeutic remnants from ancient folk-medicine. Proper feeding and good nursing are essential. The mouth, nasopharynx and the bowels should receive proper attention. Only those few drugs which will relieve pain and strengthen the respiratory and the cardiovascular systems should be employed in aiding the child to overcome the disease. Nauseating expectorant mixtures should not be forced on a child. Good food, country air and general tonic remedies are important in the treatment of the aftermath of bronchopneumonia.

213 East Broadway.

The Influence of the Glands

While all the endocrine glands have a marked influence upon all the processes of life, there are some whose functions ar essential to normal physiologic processes and even to life itself. Brown, writing in the *Journal of the American Association for Medico-Physical Research* for February, 1923, states that these are the thyroid, the parathyroid, the pituitary, and the adrenals. Complete loss of function or extirpation of any one of these is incompatible with life.—(*Endocrine Survey*, January, 1925)

The Medical Times

A MONTHLY JOURNAL
OF
Medicine, Surgery and the Collateral Science
ESTABLISHED IN 1872

EDITED BY
H. SHERIDAN BAKETEL, A.M., M.D., F.A.C.P.
ARTHUR C. JACOBSON, M.D.
Associate Editor.

Contributions.—EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this publication.

When authors furnish drawings or photographs, the publishers will have half tones and line cuts made without expense to the writers.

SUBSCRIPTION RATES
(STRICTLY IN ADVANCE)

UNITED STATE. . . . . (Including Alaska, Cuba, Mexico, Porto Rico, Hawaiian and Philippine Islands)	$2.00 per year
CANADA	$2.25 per year
FOREIGN COUNTRIES IN POSTAL UNION . . .	$2.50 per year

SINGLE COPIES, 25 CENTS

Definite written orders for THE MEDICAL TIMES are required from all subscribers, to whom the journal is thereafter regularly forwarded.

Notify publisher promptly of change of address or if paper is not received regularly.

Remittances for subscriptions will not be acknowledged, but dating on the wrapper will be changed on the first issue possible after receipt of same.

All communications should be addressed to and all checks made payable to the publishers.

MEDICAL TIMES CO.
ROMAINE PIERSON, *President*
H. SHERIDAN BAKETEL, *Treasurer*
GEORGE B. CREVELING, *Secretary*

98 Nassau Street - - - New York

NEW YORK, APRIL, 1925

Medical Engineering

Mr. Chester I. Hall, of the Research Laboratories of the General Electric Company, deserves the thanks of the profession for his ingenious solution of the problem of graphic analysis of vibratory motion as displayed by various pathologic tremors. Upon two revolving films he secures tracings which reveal the characteristics of such tremors in both vertical and horizontal planes so that they can readily be correlated, synthesized and interpreted by the observer.

Mr. Hall finds that these tremors have distinctive characteristics which enable the clinician to make diagnostic differentiations. The finger tremors of exophthalmic goiter, senility, fatigue, toxemia, multiple sclerosis, alcoholism, paralysis agitans, the psychoneuroses, etc., possess decidedly individual earmarks.

In the case of exophthalmic goiter particularly, records of the greatest significance are made, permitting the checking up of the patient's progress under therapy, and determining the choice of operative or conservative measures. In the differential diagnosis of exophthalmic goiter from disorders that simulate it the value of Mr. Hall's device is especially striking.

A great deal of research has been done by Mr. Hall in the leading clinics of the country, and the results justify the affirmation that his method of subjecting tremors to minute scrutiny and study will take an assured place among those resources which, like the sphygmomanometer, the electrocardiograph, and basal metabolism apparatus, enable us to measure and record accurately certain vital phenomena, and without which modern medicine would be but a canting phrase in the mouths of men.

Mr. Hall adds another to the growing group of liaison engineer officers who are ably co-operating with the medical army in its campaign against the common enemy, disease.

Hygiene: White House Style

If press reports are to be believed, the White House programme of economy includes the substituting of ordinary drinking glasses for paper cups at the water coolers.

So also, according to the same reports, the allowance of towels for the White House washrooms has been reduced from 175 to 40 daily, which involves using each one more than once. It is said that the soap supply is noticeably scarce, as compared with former days.

If these allegations be true, such a state of affairs is greatly to be deplored, since it sets back much of the educational work and sanitary reforms of the Federal Public Health Service and of many Health Departments, not to speak of numerous unofficial hygienists the country over.

We dislike to believe that our highest Governmental places are held by men of the type who would be willing to stand revealed as sponsors of the foregoing practices in this age and generation.

Sickness and the Income Tax

A curious and striking proof of the preoccupation of legislators with matters having to do with property, rather than with human life, is afforded by the Government's attitude toward proposals to permit the citizen to deduct medical expenses in figuring his Income Tax obligation.

You can deduct for a burned barn, but not for the medical treatment of a man who incurs burns in fighting the fire.

The Government will not take the latter circumstance into any consideration.

It is not too troublesome for the revenue collector to investigate bad debts figured as deductible, but to investigate sickness claims would be entirely impracticable.

Most of the income of many people goes for the medical treatment of themselves and their relatives, but they can only deduct for bad investments.

Deduct for a shipwreck, yes, but not for necessary operations on members of the family or oneself.

If you are rich, you may deduct for contributions to relieve suffering children abroad; if you are poor, you may not deduct for disastrous illness right in your own home.

As collected, the Income Tax penalizes families which dare to produce babies. Yet the Government punishes the dissemination of birth control information. This is exactly on a par with the support of dry legislation by personally wet representatives.

Expenses incurred in the treatment of sick horses, or incidental to the birth of farm animals, are deductible.

But the expenses of childbirth cannot be deducted. This is not civilization.

Malaria Versus Paresis

The work of Bunker and Kirby, at the Manhattan State Hospital, tends strongly to confirm the earlier results of Wagner von Jauregg in Vienna and Wey-

gandt in Hamburg in the marked improvement of paresis through tertian-malaria inoculation, as well as the reported successes of McAlister and Grant in England.

Out of fifty-three patients suffering from this disease, seventeen were discharged from the hospital, and of these fourteen have returned to their former occupations. This is truly remarkable, when one considers what the clinical course in such a series usually means.

In the cases favorably influenced the disease seems to be brought to a standstill, as judged by clinical criteria, although the Wassermann seldom becomes completely negative.

The outstanding phenomenon in the improved cases is the excellent degree of insight into their previous and present condition which these patients, without exception, exhibit.

The technic consists of the intravenous injection of from 1 to 1.5 c.c. of typed citrated blood, which surely produces a "take" in from three to seven days. A patient is allowed to have between eight and twelve definite febrile attacks, after which the infection is terminated by the administration of quinin sulphate. During the febrile paroxysms the temperature reaches a height of from 104 to 106 F.

How does this treatment produce its effects? First, high temperatures have a destructive effect upon the infective organism; second, there is a primary and temporary impoverishment of the blood, followed by a rapid regeneration leading to marked stimulation of all the mechanisms whereby the body defends itself; third, there is probably an influence on the permeability of the choroid plexus.

The Eugenic Outlook

F. C. S. Schiller, in his clever little book "Tantalus, or, The Future of Man," reminds us that civilization, as at present constituted, is very definitely a deteriorating agency, conducing to the degeneration of mankind. This degenerative effect is actually cumulative, and is attested on all sides to-day by conspicuous arrests of normal biologic development which hardly need be tabulated for the medical profession, so sadly familar are such arrests to all physicians.

Schiller finds the trouble to be chiefly the inability of the ruling class to keep up its numbers without considerable recruitment from below. So society, as at present organized, is always dying off at the top, and proliferating at the bottom, of the social pyramid. This is a disastrous system, because as it works out those promoted from below because of ability pass into a class which rapidly tends to extinction on account of an inadequate rate of reproduction. Thus the ultimate reward of merit is sterilization, and society appears to be an organization devoted to the suicidal task of extirpating any ability it may chance to contain, by draining it away from any stratum in which it may occur, promoting it into the highest, and there destroying it. It is exactly, says Schiller, as though a dairyman should set in motion apparatus for separating the cream from the milk, and then, as it rose, skim it off, and throw it away!

The author thinks, nevertheless, that Tantalus can save himself if he chooses. On how he can do this Schiller has something interesting to say. We are not at present making anything like an adequate use of all our knowledge and powers.

No prediction is made, however, that Tantalus will save himself.

This small book will afford the busy but thoughtful physician a profitable leisure hour. We have given only a glimpse into its fascinating pages.

Miscellany

Conducted by Arthur C. Jacobson, M.D.

Subway and Elevated Sanitation

"The sanitary conditions along the subway and elevated lines and at the various stations should be the subject of more thorough supervision, so that the present objectionable conditions may be materially improved, and to that end an increased inspection force of the regulating authority should be provided."
—From Judge McAvoy's Report to Governor Smith.

"The commission caused a general inspection to be made of the sanitary conditions at every station on the elevated and subway systems between Jan. 26 and 29. Two inspections on the same day were made at each such station. The results have been tabulated and a report shortly will be prepared and published. It is apparent, however, that only through careful cooperation of the traveling public itself can correct sanitary conditions be maintained. The lavatories in the Times Square Interborough station alone are, for instance, used by 8,000 persons a day. Lavatories that are thoroughly cleaned at one moment have been found in badly soiled condition fifteen minutes later. There is little to indicate that the companies do not do the most that they can do to keep up with these conditions.

The commission has under consideration a plan for the possible transfer of most of these lavatory facilities to the city itself, to be used as a part of the rather limited and inadequate system of comfort statioins now under the jurisdiction of the Borough Presidents. With entrances installed directly from the streets, their serviceability would be increased and the Department of Health enabled to co-operate more effectively in their proper maintenance."—From Comment on the Foregoing by Mr. McAneny, Chairman of the Transit Commission.

The Traits of the Flesh-Eater

"There is one characteristic of man, seemingly associated with food supply, that has so much to do with the ordering of things now, has had in the past, and will again in the future, that some few lines here may be devoted to its consideration: I mean his pugnacity, ferocity, readiness or eagerness to contend —whatever be the term chosen. Allowing that this characteristic is more marked among carnivorous than herbivorous animals, are we to regard it as contingent on the eating of flesh, or rather as the disposition to obtain flesh? Liebig found that a bear, ordinarily quite harmless, became violent when fed on flesh; but this might imply merely that being for once restored to vigorous condition, the bear found cause of grievous complaint in its confinement. It is true that lions, tigers, and similar creatures appear ferocious when seeking their prey or withstanding attempts on their lives. But are we right in calling this necessary taking of sustenance, or this instinct for self-preservation, ferocity? When fed and unmolested they are tame and peaceful enough. Is it because these beasts have capable weapons of offence

that we call them savage? A hare when wounded will bite, and a brooding hen will peck. There is no reason to suppose that flesh-eating man as such will be less amenable to the pleasures of peaceful possession than fruit and grain eaters; but there is reason to suppose that wanting a thing he will be more ready than others to risk the dangers so often met in the hunting fields, armed as he is with weapons of proved efficiency. For him, moreover, as for the pastoral, there will be little of that terror of the unknown so potent with his stay-at-home congeners. These know little of combat with animate or inanimate nature and are little inured to pain; and peace is essential to their crops. Their activities will seldom lie in the direction of personal forceful acquisition. But chance it otherwise, fear of strife will vanish, and till the end be achieved there will be a display of pugnacity, ferocity or delight to contend, only more intense than that shown by flesh-eaters, because more constantly sustained by certain food supply. 'The Romans,' says Mommsen, 'lost many battles; they scarcely ever, on making peace, ceded Roman soil, and for this they were indebted to the tenacity with which the farmers clung to their fields and homesteads.'"—F. P. Armitage, in *Diet and Race: Anthropological Essays*, 1922.

Cutting the Distance

"Do you walk around the square once every morning as I told you to do?" asked the doctor.

"I did for the first week, doctor," replied the patient. "But I found that it made me weak to walk all the way around the square, so now I only walk half way around and then return."—From the *Cincinnati Enquirer*.

Pyuria

(Concluded from page 89)

Renal pyuria is the last topic for consideration and like almost all of the preceding subjects is so vast that a book of no small proportion could be written on it. Resort must always be had to every possible advanced method of diagnosis exemplified by the cystoscope, ureteral catheters and *x*-ray pictures. Pus from the kidney may appear during any of the infectious diseases and persist a long time after the immediate convalescense is over. In addition to this general origin of infected kidneys, one must consider anatomical abnormalities such as the horseshoe kidney, double pelvis kidney, polycystic kidney and the like. Next come the infections with the bacillus tuberculosis, bacillus coli, the ordinary pyogenic germs, and many other special organisms. Tropical disease such as filaria may have in addition to bleeding, also pus. Stone formation within the substance of the kidney or the cavity of the pelvis is a very common source of pus associated with attacks of bleeding. Finally malignant neoplasm completes the list, such as: hypernephroma as the most malignant, the various types of carcinoma, the occasional sarcoma, and last the papilloma which is potentially and almost always actively malignant at the time of its discovery. As these tumors behave first as foreign bodies and then as destructive infiltrating lesions, they necessarily excite pus which through the secretory function of the kidney is delivered immediately into the urine. Infection of the kidney, owing to these actions by the tumor immediately augments the pus. In these days of modern urology the pyeologram is supreme in these diagnoses because even in the presence of active pus and blood the iodide of soda may be injected into the pelvis without damage and often without disturbance. Such annoyance of the patient as may arise is temporary and very rarely requires more treatment then a few hours rest in bed.

The whole importance of this brief review of pus in the urine is to emphasize the general fact that it can never be neglected, that supposition and guesswork as to its meaning are not diagnoses but are unfair impositions on the trust and faith of the patient. Hence, the only proper course is to submit these cases to a urologist so that as far as possible the earliest stage of any of these lesions will be recognized and real efforts at prevention in some cases and relief in all cases adequately determined and carried out.

45 West 9th St.

Diagnosis and Treatment

Sacral Nerve Block Anesthesia

W. R. Meeker and A. J. Scholl observe that the quantity and percentage strength of the novocain solution varies in the hands of different operators. Laewen recommends from 20 to 25 cc of a per cent solution of novocain and epinephrin with the addition of sodium chlorid and sodium bicarbonate. He also employs from 25 to 35 cc of a 1.5 per cent solution of novocain bicarbonate. Other formulas have also been proposed. Strauss adds sodium sulphate. Harris maintains that the efficiency of the solution is increased by the addition of calcium chlorid, and potassium sulphate has been employed for the same purpose. Our experience has not indicated that the combination of other salts with the novocain results in a more satisfactory anesthesia. * * * In making the injection the sacral hiatus or caudal opening is located in the usual manner, the patient lying on his abdomen with hips elevated. In the majority of cases, an ampule, put out by Metz, containing 1 gm of novocain in 5 cc of sterile distilled water, is used. Approximately 95 cc of sterile water is brought to a boil in a sterile beaker, removed from the alcohol flame, and the contents of the ampule added. The ampule mixture is allowed to cool, and 6 drops of a 1:000 epinephrin solution added.—(*Ann. Surgery*, Nov., 1924, 729.)

Malaria Versus Paresis

In the Journal of Nervous and Mental Disease for May, 1922, Dr. Wagner-Jauregg, Chief of the Psychiatric Clinic in Vienna, writes about "The Treatment of General Paresis by Inoculation of Malaria." All psychiatrists are familiar with the frequent improvement in mental conditions in the presence of a generalized infection. A maniac, for instance, not infrequently becomes much improved in mentality during a septic infection; improvement may likewise often be observed in depressive mental disorders during some infectious disease, e. g., typhoid fever or pneumonia. This sort of observation it was, which led observer to conclude that he might render a beneficient service to an individual affected by paresis by infecting the paretic with malaria. As he had noticed the frequent, apparently uncaused remission in paresis, his purpose was to find some therapeutic measure that would indefinitely prolong such remission.

When Koch brought out tuberculin in 1887, Wagner-Jauregg made use of this agency to elevate body temperature and in this way to combat the paretic process, for he was decidedly of the opinion that the temperature was mainly responsible for the improvement in the paresis. With the injections of tuberculin, with which he gave also mercury, his results were good. The remissions in many cases of paresis were much prolonged, some as long as 12 years, so long indeed that he regarded them as recoveries. For the purpose of introducing a more vigorous infection he made use of typhus vaccine, with even more favorable results. But he wished to make use of a still more violent infecting agent. This he found in tertian malaria.

In 1917 he inoculated a number of paretics from a soldier suffering from untreated tertian malarial fever. Nine cases were so inoculated. In six of these nine cases the results were favorable. Three of the six cases were actively and efficiently at work four years after treatment. Since that time more than 200 cases have been so treated, and of this number fifty seem to be in premanent remission.

As to the method of inoculation, blood is obtained from a person suffering from tertial malarial fever to whom no treatment has been given. From ¼ to 1 cc of this blood is injected under the skin of the back of the paretic. It was once thought to be necessary to obtain the blood during a chill, but it now is known that blood obtained between chills will do almost as

well. The initial chill in these inoculations occurred from the sixth to the thirty-sixth day. After the patient had been permitted to have from 9 to 12 chills quinin was given and the malarial infection was driven out. This type of malaria yielded easily to treatment. Quinin treatment of the malaria was accompanied by neosalvarsan injections, one a week for six doses. Maximum improvement of the paretic condition does not follow immediately after the development of the malaria, but it comes along in each case after considerable time. The improvement involved every feature of the paretic. The sick man gained in weight, the tremors disappeared, the voice became steady, the mentality returned to normal, and in many cases epileptiform attacks were prevented.

A few cases were not favorably influenced at all by the malarial infection. One or two advanced cases seemed to be made somewhat worse more enfeebled by the added malarial infection. Paresis in its incipiency is much more amenable to the antagonistic malarial influence than paresis in advanced form. In the same number of the same journal "The Treatment of Paresis by Inoculation with Malaria" is discussed by Dr. Honorio F. Delgado, of Lima, Peru. Of four cases of paresis of rather chronic type inoculated therapeutically with tertian malaria, case one apparently recovered; case two improved; case three died; and case four returned to work, seemingly in his usual health.—(*So. Med. & Surg.*, March, 1924.)

Therapeutic Inoculation of Malaria

Dattner and Kauders of Vienna make the statement that the inoculation of malaria for therapeutic purposes has been employed not only in general paralysis but in other postsyphilitic diseases of the nervous system, such as tabes, cerebrospinal syphilis, optic atrophy, disseminated sclerosis, Parkinsonism following encephalitis and hebephrenia. The administration of quinin was accompanied, even in non-syphilitic cases, by intravenous injection of salvarsan at weekly intervals in doses first of 0.3 and 0.45 gram, followed by four doses of 0.6 gram. In weekly individuals, in whom a dose of 0.6 gram was not likely to be well tolerated, 6 doses of 0.45 were given. In cases of nonsyphilitic disease of the central nervous system, such as disseminated sclerosis and Parkinsonism, two to three injections of salvarsan were found to be sufficient. The value of salvarsan in these cases is thought to be due mainly to its antimalarial action. How far it acts on the nervous lesion is a matter of contention. —(*Brit. Med. Jour.*, March 1, 1924.)

Action of Insulin Upon the Metabolism of the Totally Depancreatized Dog

E. and L. Hedon (*Presse méd.*, May 24, 1924, p. 462), by means of a five-months' experiment upon a depancreatized dog, have demonstrated that continued insulin treatment, with suitable regimen, including pancreatic ferments, restores such an animal to a condition of absolutely normal nutrition, and maintains it so long as the treatment is continued.

Immediately after appearance of diabetes (consequent upon completion of the primary pancreatectomy performed 27 days previously), there was a noticeable rise in the exchanges and in the energy used up, which is the rule with a totally depancreatized animal.

The suppression of insulin for forty-eight hours, three and a half months after commencing the treatment, brought a return of severe diabetes and an immediate rise in the basal metabolism, exactly similar to that occurring just after completion of the pancreatectomy. So far, there is no indication of functional substitution of the deficient organ through the activity of other organs.—(*Endocrine Survey*, January, 1925.)

Homostimulation

The general practitioner administers digitalin to sustain the heart's action. He succeeds to the degree in which digitalin stimulates thyroid reaction and thereby metabolism. The endocrinologist, on the other hand, prefers the direct route, gives thyroid substance, and obtains the same result by homostimulation. The administration of glandular elements is responded to by the functioning of such glands the homogeneous elements of which are introduced, that is, homostimulation. — (*American Medicine*, June, 1924.)

Thyroid Deficiency in the New-Born

Thyroid Deficiency in the New-Born, with the consequent cretinoid individuals with secondary eunuchoid characteristics, is best handled by a combination of thyroid and pituitary, through pluriglandular treatment of this condition is becoming gradually more popular. These combinations consist of thyroid, gr. 1/8; pituitary, gr. 1/5; suprarenal, gr. 1; orchic, gr. 1½; pineal, gr. 1/30. These pluriglandular combinations are now readily obtainable from most of the houses who specialize in organotherapy. —(*The Medical Interpreter*, No. 6, Sec. 51.)

Tardy Syphilitic Arthritis

In the Med. Klin. Schlesinger says that one of the frequent manifestations of syphilis is affection of the joints. The fever that may accompany the process may be very high. Syphilis may simulate any form of joint affection, either acute or chronic. Important hints are given by the history of the patients and any periosteitis or other manifestations of syphilis from which they may have suffered. The Wasserman reaction is frequently negative, especially in the serum. Of all the forms of chronic arthritis, the prognesis is the best if the etiology is recognized and specific treatment beginning with mercury is instituted at once. The pains can be mitigated by the use of mercurial plaster applied locally.—(*U & C Rev.* 28:8:491.)

The Use of Salvarsan After Exposure to Syphilis

In a review of the literature with a record of his own experience of the use of salvarsan after exposure to syphilis, D. L. Simon, of Pittsburgh abstains from employing the term "prophylaxis" as the question as to whether it is a prophylactic or curative measure is open to discussion. Pardoe-Castello, for example, with whom Dr. Simon is inclined to agree, maintains that it is a curative procedure in that it prevents the appearance of symptoms by curing the disease in the incubation period.

The term "prophylaxis" is more applicable to modifications of Metchnikoff's method in which calomel or other spirochaeticides are used directly after exposure to destroy the organism in situ before they enter the blood stream. Local prophylaxis, however, is insufficient if used more than 12 hours after exposure, and it is in this group of cases that treatment, by salvarsan is most likely to be of value. Dr. Simon, who has employed his treatment for the last four years, confines it to persons who present themselves within 72 hours after exposure. The application of the method after this time is inadvisable, as there is a risk of giving insufficient treatment to a case in which intensive therapy is required. The cases treated had no previous history or evidence of syphilis, and all gave a negative Wassermann reaction. In most of the cases signs of active syphilis were present in the partner. The method consisted in the injection, every other day for three doses, of 0.3 gm. neosalvarsan dissolved in 10 c.c. of distilled water. The Wassermann reaction was examined two weeks after the last dose and then at monthly intervals for four months. In the four cases which Dr. Simon records the Wassermann reaction remained negative, and no clinical evidence of syphilis was detected in persons so treated who had been kept under observation for periods ranging from four months to two years.—(*Lancet*, May 3, 1924, 914.)

Insulin by Mouth

Several months ago (Nov., 1923, p. 94) *The Endocrine Survey* called attention to some evidences in the lierature to the effect that there exists an interrelation between the functions of the parathyroids and the pancreas. Referring to this fact, the *Illinois Medical Journal* (Feb., 1924, p. 89) cites Winter and Smith (*Jour. Physiol.*, 1923, lviii, p. 108), who found that, when insulin and parathyroid solution were injected simultaneously into rabbits, it took only obout one-fourth of the usual dose of insulin to bring about a typical reaction consisting of hypoglycemic convulsions. "Incidentally," the Editor of the *Illinois Medical Journal* continues, "these workers reported in the same article the somewhat disconcerting fact that insulin *is not inert when given by mouth* (despite some rather strong statements to the contrary) provided it is properly protected; . . . More recently, Forrest, of Newcastle-on-Tyne, reports five clinical cases of diabetes to whom parathyroid extract was given *by mouth* in conjunction with insulin, and the blood-sugar curve was compared with that previously obtained following the administration of insulin alone. A short article in the *British Medical Journal* (Nov. 17, 1923, p. 916) embodies the case reports."

In connection with the foregoing, two points are emphasized: (1) "that the parathyroid evidently is *not inert* when given by mouth, contrary to past comments by some," and (2) "that we are getting into pluriglandular considerations again."

All this receives additional interest from a newspaper clipping (of unknown derivation, but which was published some time in January last), containing an article by Prof. R. G. Hoskins, Editor-in-Chief of *Endocrinology*, on the subject, "Gland Research Aims to Prolong Active Life." Professor Hoskins, speaking of insulin, says: "The necessity of injecting it hypodemically will probably be eliminated, since *taken with alcohol by mouth it has been shown to be potent.*" In view of certain earlier, quite different, pronunciamentos from the same authority, we consider this dictum as significant. We are happy to have this confirmation that insulin, taken by mouth, is potent—not that we needed it; we have known it all the time; nevertheless, it is nice to be told so.—(*Endocrine Survey*, Jan., 1925.)